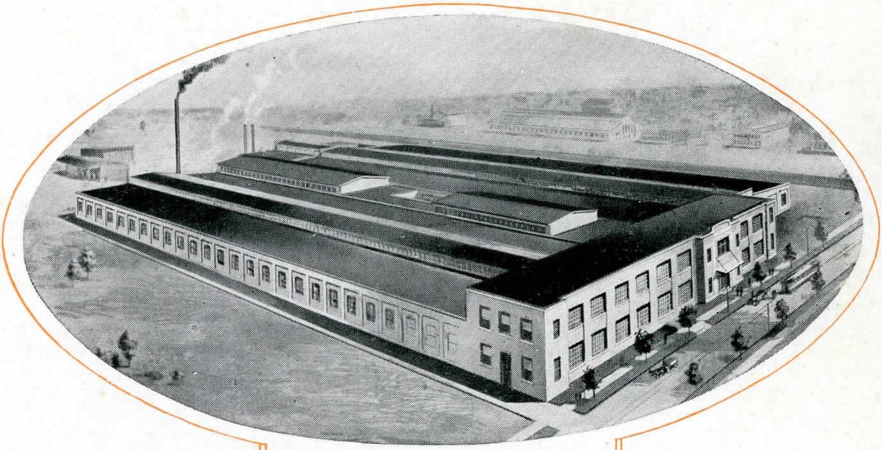
BEAVER

Pipe Cutting and Threading

TOOLS

The Borden Company
Warren, Ohio. U.S.A.
1924



Beaver Easy Working Quality Tools are made in this plant—the largest and best equipped plant in the world devoted exclusively to manufacturing high grade Die Stocks and Pipe Cutters.

THE BORDEN COMPANY

Manufacturers of

Beaver Easy Working Die Stocks Beaver Square End Pipe Cutters and Various other Pipe Threading Tools

WARREN, Trumbull County, OHIO
U. S. A.

Codes Used
WESTERN UNION—5 LETTER
A. B. C.—5TH EDITION
LIEBERS—STANDARD
MASTER

Cable Address
BORDEN—WARRENO

March 1st, 1924
CATALOG NO. 17
Printed in U. S. A.

The Beaver is one of few animals which believes in cooperation and practices team work. It is accurate, skillfull, adaptable, ingenious, industrious and its teeth are ever sharp

Friendship

THIS catalog marks the twenty-fourth year of our business existence and a growth from a three man shop to an organization employing several hundred skilled mechanics in what is accredited the largest and best equipped plant of its kind in the world.

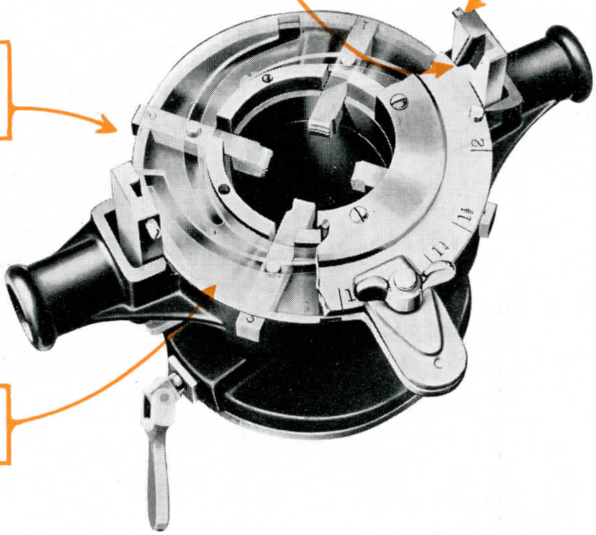
And to our friends we owe this accomplishment. They are our promoters and the most cherished asset we have.

We are grateful to Beaver Users for their endorsement; to the Jobber and to the Jobber's Salesmen who recommend and sell Beavers, and to the trade throughout the world who so generously purchase our product.

We shall always strive to merit the continued confidence and support of our friends.

THE BORDEN COMPANY
WARREN, OHIO, U. S. A.

The Beaver Principle

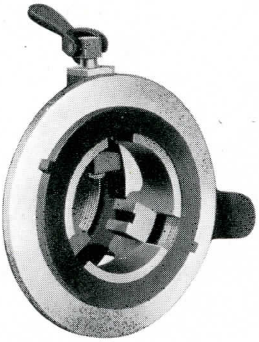


D This vertical post extends outward during the threading operation—the recessed slot controls the gradual opening of the dies to exact pipe taper.

C Top plate, or dial plate, with lug extending into recess of taper-slotted post.

B The narrow lathe-like threading dies held in place by curved slots of cam plate.

A The controlling die cam plate with curved slots engaging each die.



Showing Universal Chuck used on 2″ Beaver Die Stocks—doing away with Bushings.

The Beaver Principle

IN the early days of The Borden Company, while experimenting with separate threading chasers held in a plate that allowed the dies to move in and out, it occurred to the operator that if these dies were started on the pipe at full depth and gradually opened up while cutting, the thread would be tapered, even if the die had but a single tooth.

For many years it was considered necessary to cut tapered pipe threads with a tapered die. It is evident that a tapered die is an inverted wedge and it must cut harder with each turn because in addition to the labor of cutting the thread each succeeding revolution adds the unnecessary friction due to dies binding tighter on the pipe.

This, then, is the very essence of the Beaver Principle—the dies are practically without taper and yet they cut an absolutely perfect tapered thread because they automatically move away from the pipe during the threading operation, the dies removing less metal each turn and consequently each turn of the die stock becomes easier, right up to the finish of the thread.

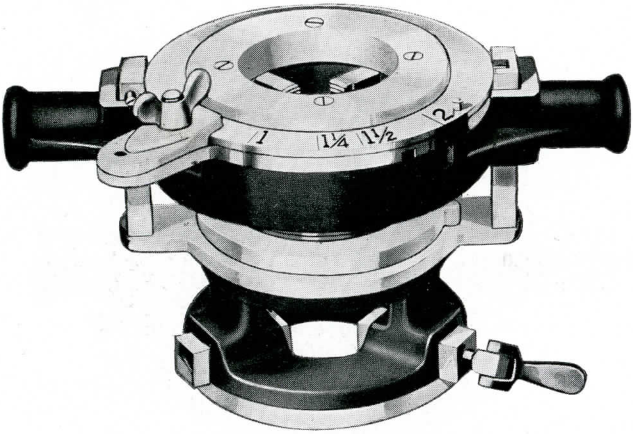
The dies being reduced in width to just a few teeth (*narrow* like a lathe tool) it is possible to do things not possible with the ordinary old-style full-thickness dies. For instance, dies can be set to thread all sizes of pipe by a simple turn of the handle, avoiding the time lost in changing dies. Beaver Die Stocks are instantly adjusted to cut over or under, as well as exact standard threads, and dies may be released after the thread is cut.

The operation of a "Beaver" Die Stock is not only exceedingly simple but mechanically correct as the following brief description with reference to the "phantom" illustration on the opposite page discloses.

The narrow "Beaver" Dies (B) when set to any required size are supported in curved slots in the cam-plate (A). "Beaver" Dies are not held rigid as are the old style dies; as being themselves without taper in such case a straight thread would result.

It is evident, to secure the Standard taper pipe thread, the die must expand from the pipe during threading operation.

"Beaver" Dies cut the Standard taper pipe thread by starting at full depth, the pressure of the die against the curved surface of the cam slots tends to turn the plate (A) thus allowing the die to open, but this turning of the cam plate (A) and the resulting gradual expanding of the die at the rate of pipe taper is absolutely controlled by the engagement of the lug (C) in the recessed slot of vertical post (D).



Beaver No. 25 Threads 1, 1¼, 1½ and 2-inch Pipe
Without Changing Dies or Bushings

No. 25 BEAVER (Plain) 1 to 2-inch

THE Beaver No. 25 is the leader in the field of easy-working die stocks and the pioneer of the larger sizes described in this catalog. Nearly 100,000 pipe users know its value and it is the admitted Standard of Efficiency and Easy-Cutting in 2-inch tools.

This tool threads 1, 1¼, 1½ and 2-inch pipe without changing dies or bushings. One set of dies cuts all sizes and is adjustable to cut standard, oversize or undersize threads. Running threads, pitched threads, and nipples can be cut with this tool. Best of all, a man of ordinary strength threads 2-inch pipe with one hand. A thread can be cut in the time required to change dies in other tools.

The Beaver easy-working principle employed in this and larger sizes is fully described on page 5.

The centering-chuck eliminates the bother of four loose bushings. It centers the pipe accurately, assuring straight threads, and is simpler and stronger than the ordinary grip screws.

When new dies are needed you buy one set—not four. They are made of vanadium steel, and can be sharpened on an ordinary grindstone.

Left-Hand Threads. A Beaver No. 25-L is made also to cut left-hand threads only and is enameled Red. The regular No. 25 Beaver cuts right-hand threads only.

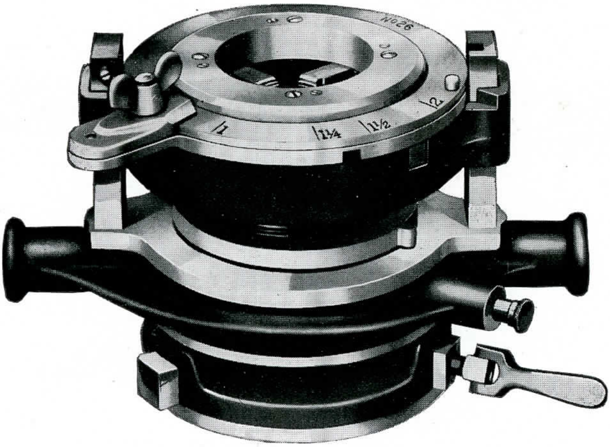
Regularly furnished American Briggs Standard or Whitworth Pipe Standard (for export) as listed.

Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words American	Code Words Whitworth	Weight, Lbs. Net	Weight, Lbs. Shipping
25	1, 1¼, 1½, 2-in.	$30.00	*Abake*	*Abaab*	22	30
25-L	1, 1¼, 1½, 2-in.	30.00	*Abald*	*Ababa*	22	30

Extra Dies, Parts, Etc.

No.	Set of Dies to Thread	List Price Per Set	Code Words American	Code Words Whitworth	Mailing Wgt. Per Set	List Price Re-Sharpening
25	1, 1¼, 1½, 2-in.	$3.50	*Abamo*	*Abaca*	10 oz.	$0.70
25-L	1, 1¼, 1½, 2-in.	3.50	*Abana*	*Abade*	10 oz.	.70



Beaver No. 26 Threads 1, 1¼, 1½ and 2-inch Pipe
Without Changing Dies or Bushings

No. 26 BEAVER Ratchet 1 to 2-inch

THE Beaver No. 26 is the same in construction and design as the No. 25 described on the opposite page—with the added advantages of a ratchet. With ratchet tools, the operator can choose his position and utilize his weight to best advantage, consequently it is even more easy to thread pipe with this tool than with the No. 25. With the Beaver No. 26 it is comparatively easy for the average boy to thread 2-inch steel pipe.

The No. 26 is adapted to threading pipe in ditches, against ceilings or walls, in corners, etc. Only 5 inches space is required around the pipe.

Staunch and rigid construction are prominent features of the No. 26 Beaver. In the Oil Fields of Oklahoma thousands have been in use since the field was opened, and notwithstanding the rough usage incidental to this work they are still giving excellent service.

Attention is called to the detachable leader screw on all Beavers, an exclusive Beaver feature which minimizes repair expense.

Left-Hand Threads. The No. 26 (26-L) like the No. 25 can be furnished at same price for threading left-hand, and is enameled Red.

Regularly furnished American Briggs Standard or Whitworth Pipe Standard (for export) as listed.

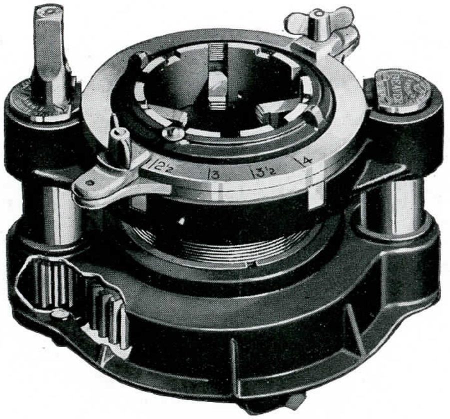
Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
26	1, 1¼, 1½, 2-in.	$35.00	*Abafe*	*Abaed*	27	35
26-L	1, 1¼, 1½, 2-in.	35.00	*Abage*	*Abaha*	27	35

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Words		Mailing Wgt. Per Set	List Price Re-sharpening
			American	Whitworth		
26	1, 1¼, 1½, 2-in.	$3.50	*Abaib*	*Abaje*	10 oz.	$0.70
26-L	1, 1¼, 1½, 2-in.	3.50	*Abaok*	*Abapa*	10 oz.	.70

BEAVER



Beaver No. 41 Threads 2½, 3, 3½ and 4-inch Pipe
Without Changing Dies

No. 41 BEAVER 2½ to 4-inch

THE No. 41 Beaver was the first of the series of larger Beaver tools. The design proved so satisfactory that other sizes with capacity up to 6, 8, and 12-inch were added as described on succeeding pages. While these tools are called die stocks, in reality they are efficient Threading Machines, being more powerful than the so-called hand pipe machines, yet so light in weight as to be perfectly portable.

In the No. 41 the patented Beaver receding die principle is used in connection with a gear. A steel driving pinion turns the tool through the intermediary of a larger gear, the ratio of which is about 6 to 1. It is the combination of these two features that makes it possible for one man alone to thread large pipe.

One set of dies threads all sizes, and is adjustable to cut standard, oversize, or undersize, insuring tight-fitting joints regardless of any variation in fittings.

Your attention is especially directed to the construction of Beaver No. 41. The threaded barrel or leader screw is a separate casting from the head to minimize repair expense; gears are protected; driving pinion is supported at both ends; bronze bushings and steel castings insure longer life. Only one set of dies to buy and these may be reground on a grindstone. Any good husky boy will thread 4-inch pipe alone.

Regularly furnished American Briggs Standard, 8 thread, ¾-inch taper or Whitworth Pipe Standard, 11 thread, (for export) as listed. Different thread pitches cannot be cut in the same tool.

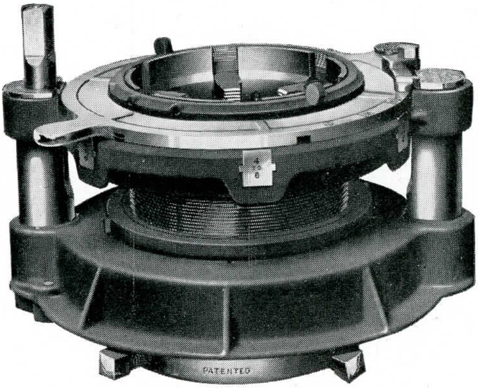
Beaver No. 41 is also furnished special to thread oil well casing and other special threads. However, our special oil field tool, No. 30, is recommended for sizes in 11½ pitch up to 3-inch.

Complete Tools, List Price, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
41	2½, 3, 3½, 4-in.	$110.00	*Abarb*	*Abaso*	99	115

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Words		Mailing Wgt. Per Set	List Price Re-sharpening
			American	Whitworth		
41	2½, 3, 3½, 4-in.	$9.00	*Abata*	*Abaub*	3 lbs.	$1.50



Beaver No. 61 Threads 2½, 3, 3½, 4, 4½, 5 and 6-inch Pipe
One Man Can Operate It

No. 61 BEAVER 2½ to 6-inch

THE No. 61 Beaver is of the same general construction as the No. 41 with added features adapting it to the larger sizes of pipe and the greater range covered. It was the pioneer in the field of 6-inch receding die stocks and it is our belief that more No. 61 Beaver Die Stocks are in use today than of all other 6-inch hand pipe-threading devices combined. The names of large Contractors, Railroads and Sprinkler Companies using several hundred will be gladly furnished.

On account of the large range in sizes, two sets of dies are used, one set to thread 2½, 3, and 3½-inch, the other to thread 4, 4½, 5 and 6-inch. They are instantly changed without tools. The light weight and portability of the Beaver No. 61 make it a more economical tool for general use than power-driven machines.

Special attention is called to the rigid construction of the threading chasers. Each die has a riding spline which holds it in true position without pressure on the adjusting plate; which, therefore, always moves easily.

Regularly furnished for American Briggs Standard, 8 thread ¾-inch taper or Whitworth Pipe Standard 11 thread (for export) as listed.

The No. 61 is also furnished special to cut various casing threads including 10, 11½ and 14 threads up to 6¼-inch for Oil Field work, but different thread pitches require separate complete tools.

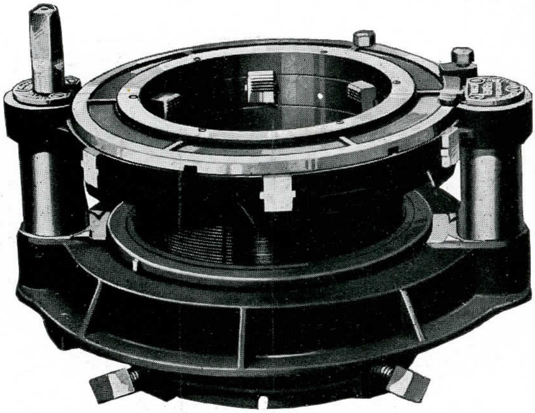
Complete Tools, List Price, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
61	2½, 3, 3½, 4, 4½, 5, 6-in.	$220.00	*Abava*	*Abaxo*	185	220

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Words		Mailing Wgt. Per Set	List Price Re-sharpening
			American	Whitworth		
61	2½, 3, 3½-in.	$14.00	*Abaye*	*Abaza*	12 lbs.	$2.00
	4, 4½, 5, 6-in.	14.00	*Abbac*	*Abbed*	10 lbs.	2.00

BEAVER



Beaver No. 80 Threads 4½, 5, 6, 7 and 8-inch Pipe
One Man Can Operate It

No. 80 BEAVER 4½ to 8-inch

THE No. 80 Beaver is practically the same as the Nos. 41 and 61. Two sets of dies are used to cover the range. We guarantee one man can thread 8-inch pipe alone. The No. 80 threading 4½ to 8-inch, is largely used in combination with the No 41 (2½ to 4-inch) and the No. 26 (1 to 2-inch). This is the equipment of some of the largest contractors in the United States as all are one-man tools and each size is best adapted to its range.

The No. 80 Beaver will operate almost anywhere, as only ten inches of space around the pipe is required. Suitable for threading bends, or for use in places where working space is limited. Many concerns operating power plants use No. 80 for threading pipe bends.

Correct design, together with steel and malleable castings, make this practically an unbreakable tool and yet the net weight is only 160 pounds. Bearings bronzed bushed.

Domestic—Regularly furnished for American Briggs Standard 8 thread, ¾" taper. Also furnished special for various threads including 10, 11½ & 14 threads up to 8¼" O. D. for Oil Field work but different thread pitches require separate complete tools.

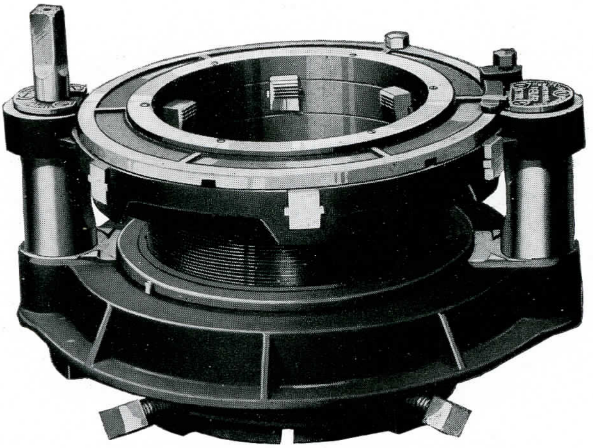
For Export—Can be furnished, if specified, same range and price as Domestic Tool in 11 thread British Whitworth Pipe Thread. However, as the specifications of the British Engineering Standards Committee specify 10 threads on 7 and 8 inch, it can only be furnished as listed below to thread 7 and 8 inch in 10 thread and thus will not take the smaller sizes which are 11 thread pitch. See listing of No. 91 on next page for range 7 to 10 inches.

Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
80	4½, 5, 6, 7, 8-in.	$300.00	*Abbic*		192	230
80	7, 8-in.	280.00		*Abbya*	167	205

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Words		Mailing Wgt. Per Set	List Price Re-sharpening
			American	Whitworth		
80	4½, 5, 6-in.	$20.00	*Abcal*		11 lbs.	$2.50
	7, 8-in.	20.00	*Abcic*	*Abcod*	8¼ lbs.	2.50



Beaver No. 90 Threads 9, 10, 11 and 12-inch Pipe
One Man Can Operate It

No. 90 BEAVER 9 to 12-inch

A FEW years ago, when it was hard work for three men to thread 4-inch pipe, the threading of 12-inch pipe by hand was not conceivable, yet, such are the easy-cutting qualities of the Beaver principle, that it is possible for one man to thread a 12-inch pipe.

The No. 90 is of the same design and construction as Nos. 41, 61 and 80. Its light weight and portability make it much preferred to the massive and costly power machines of equal range. Steel and malleable iron construction. Bearings bronze bushed.

Two sets of dies used, consisting of six chasers to a set. They can be changed quickly. Like other Beavers, the No. 90 is adjustable to cut standard, oversize or undersize threads.

Domestic—Regularly furnished for American Briggs Standard 8 threads ¾ taper. Also furnished in certain special threads for Oil Field work but different thread pitches require special complete tools for each thread pitch.

FOR EXPORT

The No. 90 is listed, to thread 11 and 12 inch only in 8 thread pitch to conform to specifications of British Engineering Standards Committee—to thread smaller sizes see description of special No. 91 Beaver.

Complete Tool, Extra Dies, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
90	9, 10, 11, 12-in.	$500.00	*Abcud*		233	300
90	11, 12-in.	470.00		*Adbyk*	190	260

No.	Sets of Dies to Thread	List Price Per Set	Code Words		Mailing Wgt. Per Set	List Price Re-sharpening
			American	Whitworth		
90	9, 10-in	$30.00	*Abdid*	*Abead*	11 lbs.	$3.00
90	11, 12-in.	30.00	*Abdoc*	*Abebe*	9 lbs.	3.00

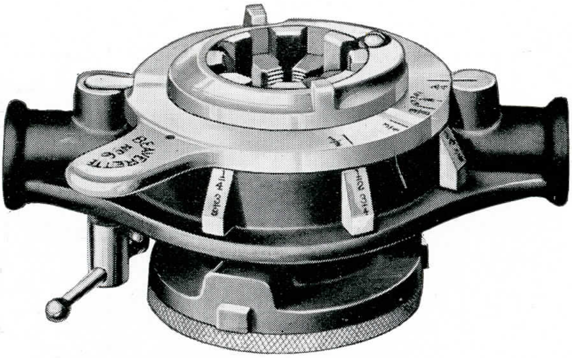
No. 91 BEAVER 7 to 10-inch

Furnished in British Standard Pipe Thread Only

This machine is similar in all respects to No. 90 Beaver illustrated above. The thread pitch corresponds to specifications of the British Engineering Standards Committee (10 thread pitch in all sizes). Two sets of dies (7 x 8-inch) and (9 x 10-inch) cover the range. When used with No. 61 Beaver all sizes 2¼ to 10-inch are threaded in the most efficient manner.

Complete Tools, List Prices, Data, Etc.

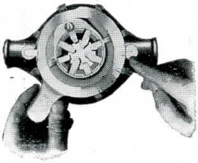
No.	Threads Pipe Sizes	List Price Complete	Code Words		Weight, Lbs.	
			American	Whitworth	Net	Shipping
91	7, 8, 9, 10-in.	$500.00		*Abeba*	233	300
	7, 8-in. (spare dies only)	30.00		*Abebo*	12¼	13
	9, 10-in. (spare dies only)	30.00		*Abebu*	10½	11

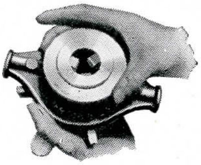


The "Beaverette" Threads ¼, ⅜, ½ and ¾-inch Pipe
Without Changing Dies or Bushings—Right or Left-Hand.
⅛-inch Dies Extra

No. 6 BEAVERETTE ¼ to ¾-inch

THE No. 6 Beaverette is an unusual example of the Beaver Principle of "not changing dies." Its manufacture followed the No. 25 and No. 41 Beaver Die Stocks in response to a demand from the trade for "a small-sized Beaver without die change." That the problem was satisfactorily solved is proved by the ever-increasing sales in the ten years it has been on the market





The method of operation is interesting. Unlike the Nos. 25 and 41 there is a difference in thread pitch in the range of this tool—¼-inch and ⅜-inch are 18 threads to the inch, ½ and ¾-inch are 14 threads to the inch—therefore two sets of dies are required. Both sets, however, are operated by the same control plate, through an ingenious arrangement of slots in which the dies ride so that simply setting to the desired size retires the set not in use.

The dies are adjustable to cut standard, oversize or undersize threads, and may be thrown open after thread is finished. Simply set to mark required, the lock holds without slipping.

The Beaverette is built with a strong pipe-centering chuck which centers the pipe accurately and instantly, insuring a straight thread. No loose bushings to change or lose. They are all in the tool. Think of the time saved by not changing dies and bushings!

The Beaverette is the only Die Stock on the market that threads ¼, ⅜, ½, and ¾-inch pipe without removing dies. Separate dies can be furnished to thread left-hand threads when needed.

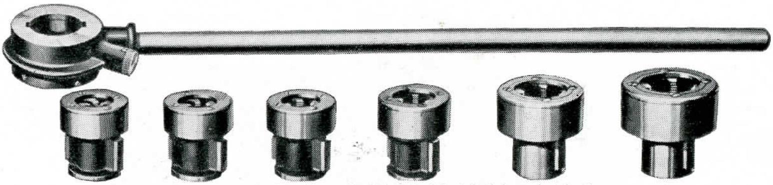
Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words American	Code Words Whitworth	Weight, Lbs. Net	Weight, Lbs. Shipping
6	¼, ⅜, ½, ¾-in.	See $15.00	*Abewe*	*Abezo*	8½	12
6½	⅝, ¾, ⅞, 1-in.	Foot 15.00	*Abexa*		8½	12
7	½, ⅝, ¾, ⅞, 1-in.	Note 15.00		*Abfed*	8½	12

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Words American	Code Words Whitworth	Mailing Wgt. Per Set	List Price Re-sharpening Per Set
6	(⅛) or (¼, ⅜) or (½, ¾-in.)	See $3.00	*Abfic*	*Abfyb*	9 oz.	$0.70
6½	(⅝, ¾) or (⅞, 1-in.)	Foot 3.00	*Abfod*		9 oz.	.70
7	(½ x ⅝) or (¾ x ⅞ x 1-in.)	Note 3.00		*Abged*	9 oz.	.70

The No. 6 is the regular tool furnished American Briggs Standard, or Whitworth Pipe Standard for Export.
The No. 6½ is for fine thread brass tubing only, as used in certain sections of U. S. A.
The No. 7 is for Export only for English Electrical Conduit, sizes ½ to 1-inch, outside diameter.

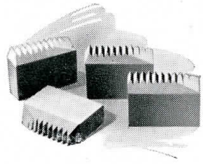


The Beaver Jr. threads ⅛, ¼, ⅜, ½, ¾ and 1-inch
Separate Die Heads. Right or Left-Hand

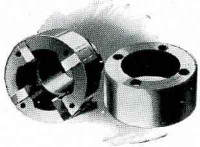
No. 3 BEAVER Jr. Ratchet ⅛ to 1-inch

THE Beaver Jr. is an extremely simple and effective tool, greatly improved in design as compared with similar tools long used in Europe. It consists of one ratchet handle and individual die heads from ⅛ to 1-inch inclusive.

It is ratchet operated and can be used close to walls or rafters, in corners, against ceilings and so forth. Separate heads can be furnished to cut left-hand threads.



Threading Chasers



Die Head

Being built on the unit plan you can start with the Ratchet Handle and one die head, buying additional heads only as you need them. If you use only ½ and ¾-inch pipe—you buy only these Die Heads and the Ratchet Handle, etc.

Construction Details—The action is positive. The ratchet will not slip or "miss" because the mechanism is completely covered so that no grease or dirt can affect its action. The ratchet is controlled by a spring thumb-bolt of large size with a good grip, so that it can be turned easily with greasy hands. Made of steel and malleable iron, giving it strength to withstand the most severe usage.

List Prices of Complete Tools, Dies, Parts, Etc.

No.	Threads Sizes	List Price Complete	Code Words American	Code Words Whitworth	Wgt. Lbs. Net	Wgt. Lbs. Sh'p'g
3	⅛ to 1″	$24.00	*Wobuc*	*Wobuf*	11	13½
3	¼ to 1″	21.00	*Wobum*	*Wobup*	10	13
3	⅜ to 1″	18.00	*Wobus*	*Wocaj*	9	12

Extra Dies, only (4 chasers). Any size.
Right or Left — per set $2.50

	Die Heads with Dies	List Price	Net Wgt.	Code Words American	Code Words Whitworth
	1″	$4.00	1½ lbs.	*Abeob*	*Abeeb*
	¾″	3.50	1¼ lbs.	*Abepo*	*Abefs*
	½″	3.50	1 lb.	*Aberb*	*Abegy*
	⅜″	3.00	¾ lb.	*Abesi*	*Abehe*
	¼″	3.00	¾ lb.	*Abete*	*Abeij*
	⅛″	3.00	¾ lb.	*Abeub*	*Akbet*
Ratchet With Handle		4.00	2 lbs.	*Abend*	*Abend*
Special Fine Thread for Boston Brass Tubing	¾″	3.50	1¼ lbs.	*Abeno*	

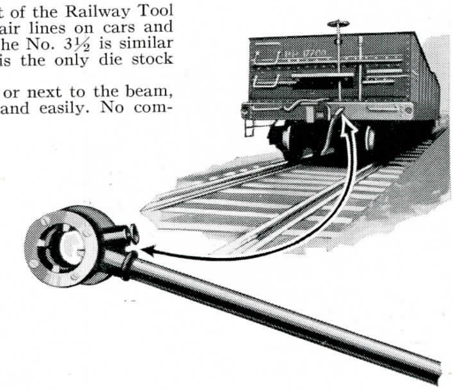
No. 3½-A Special Beaver Die Stock for Threading Air Lines and Superheater Pipe

Adopted by Leading Railroads as the only Practical Die Stock for the Purpose

No. 3½ Beaver Ratchet was designed at the request of the Railway Tool Foremen's Association to thread standard 1¼″ I. D. air lines on cars and 12 thread 1½″O. D. Locomotive Superheater Pipe. The No. 3½ is similar to the No. 3 Beaver Ratchet used on signal work and is the only die stock manufactured cutting these threads.

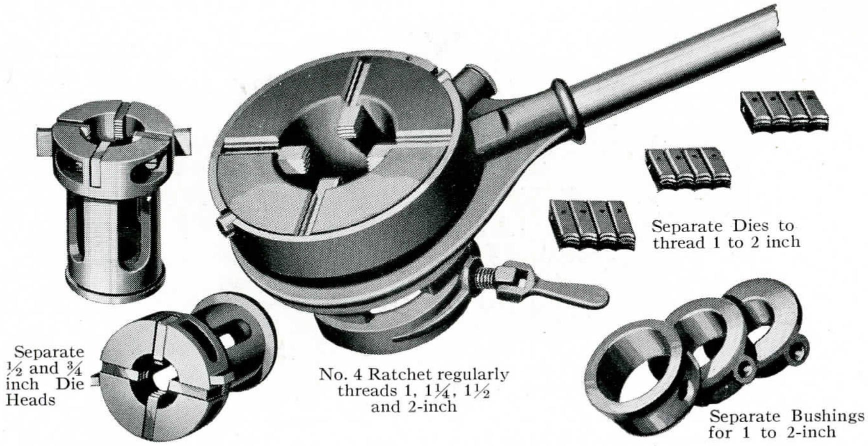
No matter where the air line snaps—under the car or next to the beam, No. 3½ Ratchet will thread it quickly, conveniently and easily. No comparison with the old way.

A 1½-inch O. D. 12 thread die head is furnished, when specified for threading Superheater pipe—a special die head made for this one purpose.



LIST PRICES

No. 3½ Beaver Ratchet Die Stock with ratchet handle and 1¼-inch Standard, 11½ thread Die Head	**$20.00**
No. 3½ as above but with 1½-inch (O. D.) 12 thread for Superheater pipe	**20.00**
Ratchet with handle, only	**12.00**
Die head complete with dies for 1¼-inch air lines (11½) thread	**8.00**
Die head complete with dies for 1½-inch (O. D. 12 thread)	**8.00**
Dies only (4 chasers) either 1¼-inch (I. D.) or 1½-inch (O. D.)	**4.00**



Separate ½ and ¾ inch Die Heads

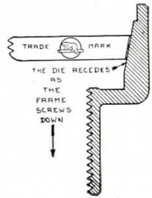
No. 4 Ratchet regularly threads 1, 1¼, 1½ and 2-inch

Separate Dies to thread 1 to 2 inch

Separate Bushings for 1 to 2-inch

No. 4 BEAVER Ratchet ½ to 2-inch

THE No. 4 Beaver Ratchet is one of the lightest, simplest and strongest easy-working ratchet stock made. This tool does not, hovever, possess the advantages or many qualities of the No. 26 Beaver Ratchet described on page 7.



Separate sets of narrow vanadium steel dies are used for each size pipe in the No. 4 Beaver. As indicated in the illustration these dies rest against the tapered surface of the outer frame. During the threading operation this frame screws down allowing the dies to expand at the rate of the thread taper. As the thread is cut, less metal is removed and the easier is the labor.

It will be noted the leader screws are covered—no exposed threads to collect dirt or chips—an important advantage. The 2-inch bushing—removable for close nipples—is eccentric in shape, thus eliminating two grip screws. The single oversize grip screw has a handle for ease in attaching to the pipe.

The range of No. 4 Beaver Ratchet is quickly increased to ½ to 2-inch simply by slipping out the separate dies and dropping in a ½ or ¾-inch die head. The projecting lugs on the die heads fit firmly in the die slots while the reverse end is rigidly anchored with the single sturdy oversize grip screw. These die heads are complete units requiring no change of dies—the dies, however, can be easily removed for sharpening.

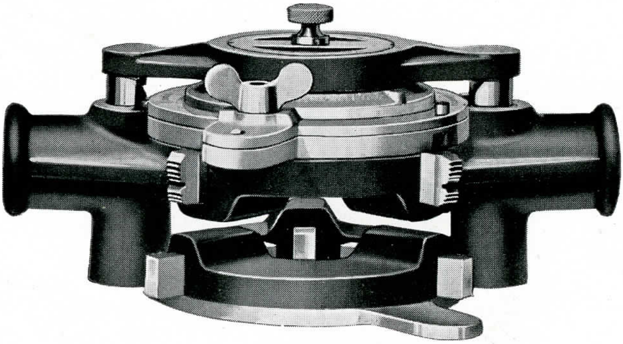
No. 23 Beaver Plain is the same in design as No. 4, but without the ratchet. See description of No. 25 self-contained Beaver (page 6) for advantages not contained in No. 23 Beaver.

Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Word	Weight Lbs.	
			American Pipe Standard Only	Net	Shipping
4	1, 1¼, 1½, 2″	$30.00	*Woeby*	16½	23½
4	¾, 1, 1¼, 1½, 2″	35.50	*Woeca*	18¾	25¾
4	½, ¾, 1, 1¼, 1½, 2″	41.00	*Woeci*	21	28
23	1, 1¼, 1½, 2″	24.00	*Wocak*	17¾	23¼
23	¾, 1, 1¼, 1½, 2″	29.50	*Wocca*	20	25½
23	½, ¾, 1, 1¼, 1½, 2″	35.00	*Wocci*	22¼	27¾

Extra dies (4 chasers only) to thread either 1, 1¼, 1½, or 2-inch per single set	$3.00
Separate ½ or ¾ inch die heads, each	5.50
Dies for above die heads, per set	3.00
Re-sharpening dies, per set	.70

For Export:—Because the No. 4 Beaver Ratchet is not an adjustable tool it is seldom furnished in British Pipe Standard. The No. 26 Beaver Ratchet is preferred in foreign countries to meet the variations in fittings.



The Beaver Cross Bar Threads
½, ¾, 1 and 1¼-inch Pipe—Right or Left-Hand

No. 210 BEAVER Cross-Bar ½ to 1¼-inch

THE "Beaver Cross-Bar" Die Stock is a light-weight, easy-working tool built upon a new principle—fundamentally different from any other pipe-threading tool. The range—½ to 1¼-inch—makes this a desirable tool for firms using only these sizes of pipe. Generally, however, contractors prefer a combination of the No. 6 Beaverette (¼ to ¾-inch) and the No. 25 Beaver (1 to 2-inch).

Unique features of the "Beaver Cross-Bar" Die Stock are the dies—formed in two sections—and the Cross-Bar Receding principle which is automatically operated by the end of the pipe as the thread is being cut. This unique modification of the regular Beaver Receding Die principle is employed, because the change in thread pitch does not permit of the leader screw construction.

The lower section of the Cross-Bar Die does the rough work of starting; the upper section then cuts a tapered thread on the Beaver Easy-Working principle. A touch of the handle throws the dies clear of the pipe and the tool is ready to cut another thread by simply pushing the Cross-Bar back into position.

Right or left-hand threads may be cut, though of course a separate set of dies is required to cut the left-hand threads. Dies can be furnished double ended or single ended as listed below.

Regularly furnished American Briggs Standard or Whitworth Pipe Standard (for export) as listed.

Complete Tools, List Prices, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Words American	Code Words Whitworth	Weight, Lbs. Net	Weight, Lbs. Shipping
*210-D	½, ¾, 1, 1¼-in.	$20.00	*Abgod*	*Abgif*	10	17
†210-S	½, ¾, 1, 1¼-in.	22.00	*Almun*	*Almor*	10	17

Extra Dies, Parts, Etc.

Sets of Dies to Thread	List Price Per Set	Code Words American	Code Words Whitworth	List Price Re-sharpening
½x¾-in. and 1x1¼-in., Double Ended, Right or Left	$5.00	*Abgon*	*Abgig*	$0.90
½x¾-in., Single Ended, Right or Left	3.50	*Abgot*	*Abgim*	.90
1x1¼-in., Single Ended, Right or Left	3.50	*Abgox*	*Abgip*	.90
¼x⅜-in., Single Ended, Right or Left	3.50	*Abgoz*	*Abgis*	.90

*Regularly furnished with double ended reversible dies (210-D).

†No. 210-S is same tool, but furnished with two separate sets of single ended dies (½x¾-in.) and (1x1¼-in.). Additional dies furnished as listed.

No. 120

No. 121

No. 122

No. 123

Warren Adjustable Die Stocks
A Low-priced, Efficient Line of Tools Threading Pipe Up to 2-inch
Right or Left-Hand

Warren Adjustable Die Stocks

WARREN Die Stocks meet the demand for inexpensive, simple, adjustable pipe threaders of limited range. Four sizes of Warren Die Stocks are manufactured, each threading two sizes of pipe without changing dies.

Warren Stocks are as simple and strong as solid Die Plates with the advantage of adjustment for over and under standard. They consist of but practically two parts—the malleable iron body and the adjustable top plate which controls the dies. The quality of the vanadium die steel used is the same as in the more costly tools.

The No. 121 Warren is especially popular with American Electrical Contractors—as it threads ½ and ¾-inch sizes of Electric Conduit, so largely used in United States of America.

Regularly furnished for American Briggs Standard thread as follows:

Complete Tools, American Briggs Standard

No.	Threads Pipe Sizes	List Price Complete	Code Word	Extra Dies Per Set	Extra Guides	Weight, Lbs. Net	Weight, Lbs. Shipping
120	¼ and ⅜-in.	$6.50	*Abhak*	$1.50	$0.25	3¼	4
121	½ and ¾-in.	7.00	*Abheb*	1.60	.30	5¾	7
122	1 and 1¼-in.	8.00	*Abhid*	2.00	.40	12	15
123	1½ and 2-in.	10.00	*Abhoc*	2.50	.50	15	21

Arranged as follows are for Export only:

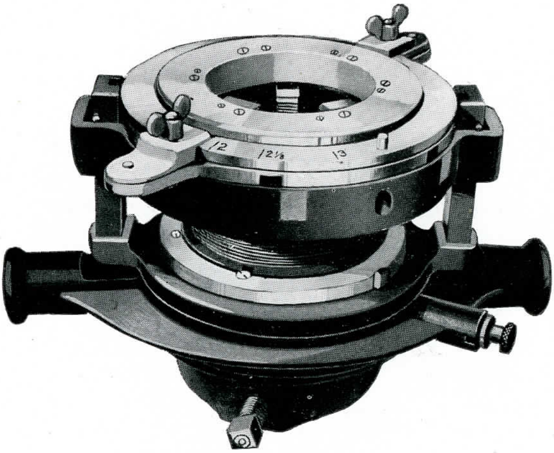
Warren Die Stocks for export are double graduated for both Whitworth gas pipe sizes and English electric conduit sizes. Prices given are for one equipment for either gas or electric. To cut both, additional set of dies and bushings are required.

Complete Tools, English Whitworth Standard

No.	Gas		Electric		List Price Gas or Electric	Extra Dies Per Set	Extra Guides	Weight, Lbs.	
	Range	Code Word	Range	Code Word				Net	Shipping
120	¼ & ⅜-in.	*Abiab*	½ & ⅝-in.	*Abigh*	$6.50	$1.50	$0.25	3¼	4
121	½ & ¾-in.	*Abiba*	¾, ⅞ & 1-in.	*Abihl*	7.00	1.60	.30	5¾	7
*122	1 & 1¼-in.	*Abici*	1 & 1¼-in.	*Abijo*	8.00	2.00	.40	12	15
123	1½ to 2-in.	*Abide*	1½ to 2-in.	*Abiku*	10.00	2.50	.50	15	21

*122 will also take 1½-inch electric, but additional set of dies and guides are required.

BEAVER



The No. 30 Beaver Threads 2, 2½ and 3-inch Oil Well Tubing
(11½ threads to the inch only)

Special Casing Die Stock

No. 30 BEAVER 2 to 3-inch (11½ Thread)

THE No. 30 "Beaver" is a Ratchet Die Stock built especially for the Oil Well trade for cutting 2, 2½ and 3-inch threads of 11½ thread pitch only on tubing or standard pipe. This special tool is built on the same Beaver principle and especially adapted to thread 2-inch, 2½ and 3-inch for the casing thread, which is 11½ to the inch. Because of the light thread a gear such as used on the No. 41 and larger tools is not employed.

One set of chasers threads all sizes and is adjustable. In buying new dies you buy only one set instead of three. There are no dies to lose, a feature especially appreciated in the fields.

Special attention is called to the fact that six cutting chasers are used, producing smoother and more perfect joints in this fine thread.

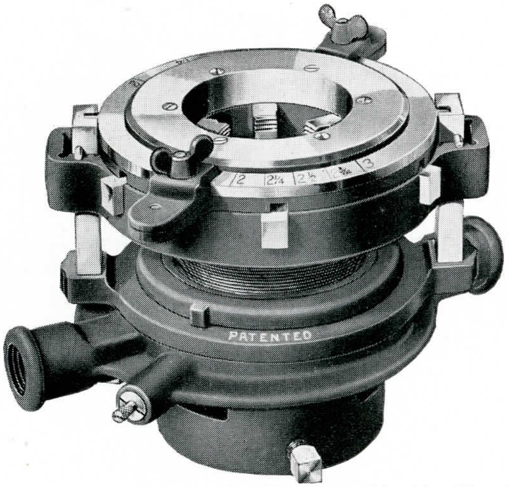
Note—The number 30 is not made for regular water and steam use because the difference in thread pitch between 2-inch and 2½-inch would limit its range and in the heavy 8-thread pitch a geared tool such as the No. 41 is preferable.

Complete Tools, List Price, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Word	Weight, Lbs.	
				Net	Shipping
30	2, 2½, 3-in. (11½ threads)	$60.00	*Abiok*	60	80

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Per Set	Code Word	Mailing Wgt. Per Set	List Price Re-sharpening
30	2, 2½, 3-in.	$9.00	*Abipa*	3 lbs.	$1.50



The Beaver No. 31 Threads 1, 1¼, 1½, 1¾, 2, 2¼, 2½, 2¾ and 3-inch Whitworth Pipe Thread for Export Only

No. 31 BEAVER 1 to 3-inch (Whitworth)

BECAUSE the Whitworth Pipe Standard is the same thread pitch (11 to the inch) from the 1-inch size up we are able to make this excellent tool for export—where it is especially appreciated because it threads every size used in gas, water or steam contracts. The ratchet form makes it most convenient. Both handles may be employed in the regular manner, but for screwing in confined positions or when the largest sizes are cut the ratchet movement is of special advantage.

This tool is built on the receding die principle, to cut the usual standard tapered thread. When straight parallel threads are required the dial plate may be reversed to engage the straight slotted post and lock nut threads obtained.

Separate guide bushings are used for each size pipe and suitable grip screws to attach the tool to the pipe.

The graduations for size are most exact. Opposite sides of the dial plate show the sizes covered by the two sets of dies. Tubes over or under standard and all variations are screwed by adjusting over or under the standard mark. Either set of dies may be inserted in one minute without the aid of tools of any kind.

Steel and malleable iron are used exclusively in the construction. They will give more service and operate easier than old style hand machines.

Regularly furnished for export in Whitworth Pipe Standard only as listed. (This tool is not made to cut American Briggs Standard.)

Complete Tools, List Price, Data, Etc.

No.	Threads Pipe Sizes	List Price Complete	Code Word	Weight, Lbs. Net	Export
31	1, 1¼, 1½, 1¾, 2, 2¼, 2½, 2¾, 3-in.	$70.00	*Abjar*	70	90

Extra Dies, Parts, Etc.

No.	Sets of Dies to Thread	List Price Complete	Code Word	Mailing Wgt. Per Set
31	(1, 1¼, 1½, 1¾, 2)	$9.00	*Abjeb*	3 lbs.
31	(2, 2¼, 2½, 2¾, 3)	9.00	*Abjik*	2½ lbs.

Range of Sizes Threaded in Different Thread Pitches

No. 25, 26, 23, 4, 31, 41, 61, 80, 90 and 91 Beavers are made to thread as specified but will not cut different thread pitches in the same tool, because these Die Stocks depend for their easy-cutting qualities on a leader screw which must be the same number of threads as the dies and turn in the same direction. Likewise right and left-hand threads cannot be cut in the same tool. No. 25 L and No. 26 L Beavers are made special to cut only left-hand threads when specified.

Tool No.	Regular Briggs Standard	British Pipe Standard For Export	English Electric Conduit	Special Threads For Oil Field Use Sizes are maximum capacity in O. D. casing 10	11½	14
3	⅛-1 RH LH	⅛-1 RH LH	--------	--------	--------	--------
4	½-2 RH	½-2 RH	--------	--------	--------	--------
6	⅛-¾ RH LH	⅛-¾ RH LH	--------	--------	--------	--------
*6½	--------	--------	--------	--------	--------	--------
7	--------	--------	½-1 RH	--------	--------	--------
23	½-2 RH	--------	--------	--------	--------	--------
25	1-2 RH	1-2 RH	--------	--------	--------	--------
25 L	1-2 LH	1-2 LH	--------	--------	--------	--------
26	1-2 RH	1-2 RH	--------	--------	--------	--------
26 L	1-2 LH	1-2 LH	--------	--------	--------	--------
30	--------	--------	--------	--------	2-3 RH	--------
31	--------	1-3 RH	--------	--------	--------	--------
41	2½-4 RH	2¼-4 RH	--------	2½-4 RH	2½-4 RH	2½-4 RH
61	2½-6 RH	2¼-6 RH	--------	4½-6¼ RH	2¾-6¼ RH	2¾-6¼ RH
80	4½-8 RH	4½-8 RH in 11 thd.	--------	4½-8¼ RH	4½-8¼ RH	6¼-8¼ RH
80	--------	7-8 RH in 10 thd.	--------	--------	--------	--------
90	9-12 RH	11-12 RH	--------	9⅝-12½ RH	--------	--------
91	--------	7-10 RH	--------	--------	--------	--------
53	⅛-1¼ RH LH	⅛-1¼ RH LH	--------	--------	--------	--------
54	1-2 RH LH	1-2 RH LH	--------	--------	--------	--------
55	½-2 RH LH	½-2 RH LH	--------	--------	--------	--------
55½	--------	¼-2 RH LH	--------	--------	--------	--------
56	--------	1¾-3 RH LH	--------	--------	--------	--------
57	1-3 RH	1-3 RH LH	--------	--------	--------	--------
58	2½-4 RH	2¼-4 RH LH	--------	--------	--------	--------
120	⅛-⅜ RH LH	⅛-⅜ RH LH	½-⅝ RH	--------	--------	--------
121	½-¾ RH LH	½-¾ RH LH	¾-1 RH	--------	--------	--------
122	1-1⅛ RH LH	1-1¼ RH LH	1-1¼ RH	--------	--------	--------
123	1½-2 RH LH	1½-2 RH LH	1½-2 RH	--------	--------	--------
210	¼-1¼ RH LH	¼-⅜ RH LH	--------	--------	--------	--------

*No. 6½ is similar to No. 6 but threads ⅝ to 1 inch O. D. in fine thread brass tubing only.

Standardize

Many advantages ac
proven by years of succe

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Many of the la
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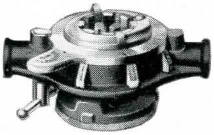
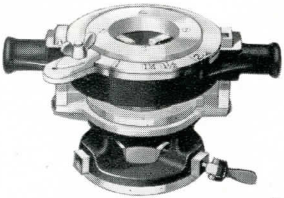
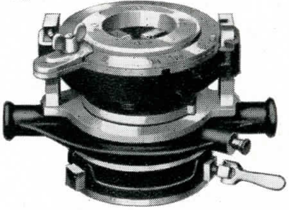


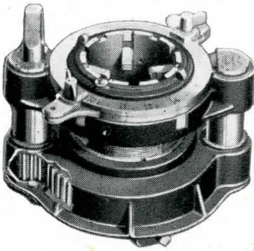
No. 6
¼ to ¾-inch



No. 25
1 to 2-inch



No. 26 Ratchet
1 to 2-inch



No. 41 Geared
2½ to 4-inch

"Beaver" tools are "one-piece" tools, with no extra parts to bother you!

When you start off on a job with "Beavers" you know, absolutely, that you have not forgotten any dies, bushings, or any other loose parts. "Beavers" are complete tools, and when you get on the job and must change from one size pipe to another, it is not necessary to stop every time and take out one set of dies and put in another one — nor take out one bushing and hunt for the correct one. All you need to do is "move the handle." Then, the fact that "Beavers" are easy-workers makes them the most desirable from the standpoint of the man who pays the bill, because with easy-working tools more work can be done per hour, and consequently the operating cost is lower. "Beavers" will pay for themselves in a short time — for proof of this fact

"Ask the man who owns one"

You will save money on the up-keep expense of "Beaver" tools. "Beaver" tools are guaranteed against defective material. Being made of malleable iron and steel, breakage is reduced to an absolute minimum. The cost of repairs is reasonable. All parts are interchangeable and can be ordered conveniently by mail.

Our responsibility exists as long as you use "Beaver" tools.

with Beavers

crue to firms who Standardize their equipment on a brand of tools
ssful manufacturing experience.

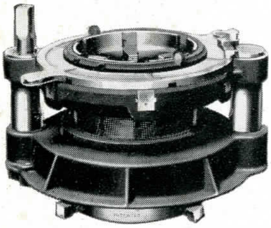
facturers of "Beaver" Die Stocks we have a reputation at stake which
lity of inferior product.

gest users of pipe in the world have learned it pays to use tools of uni-
— Die Stocks and Pipe Cutters whose dies and parts are not only easily
angeable, but obtainable in emergencies from stock with Supply Houses
every principal city.

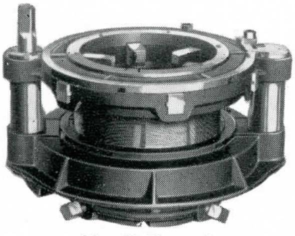
It is worthy of consideration that "Beaver" Pipe Tools are entirely manufactured in our own plant where an investment of more than a half million dollars in precision machinery vouches the accuracy of the product and its availability.

Of equal importance is the complete line of all sizes indicated on this page, threading pipe from 1/8-inch to 12-inch in convenient sizes.

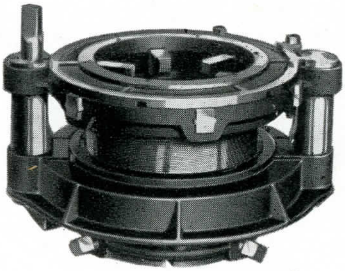
BEAVERS —
The Standard
The World
Around



No. 61 Geared
2½ to 6-inch

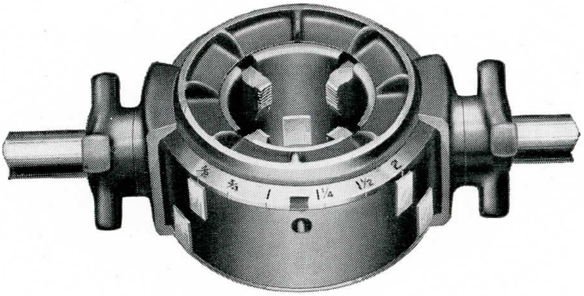


No. 80 Geared
4½ to 8-inch



No. 90 Geared
9 to 12-inch

The
"Beaver"
Way is the
Easiest Way



THE No. 55 IMPROVED OHIO DIE STOCK
Threads ½, ¾, 1, 1¼, 1½, 1¾ and 2-inch

Improved Ohio Die Plates

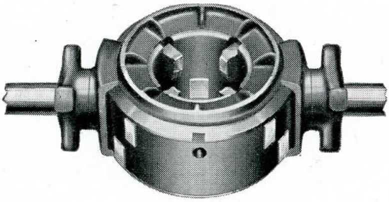
Especially Designed for Export Trade

The Simplest, Strongest and Lightest Adjustable Die Stock Manufactured

IMPROVED OHIO pipe threaders are offered to the trade as the result of twenty years' experience in the manufacture of pipe threading dies and intimate knowledge of the conditions where pipe is threaded. In offering the Improved Ohio to the trade, we feel that we are actually presenting a masterpiece—a finished product whose simplicity, refinement of design and construction have never before been even closely approximated.

It is understood of course these tools do not operate on the Easy-Working Die principle and are not, therefore, recommended in the United States to thread the heavier American Pipe Standard to which Beaver Die Stocks are particularly adapted. Improved Ohio Die Stocks are generally made and particularly adapted to the British Pipe Standard and will be found to fit every requirement of Pipe Threading and Tube Screwing in all parts of the world. Manufactured in American Briggs Standard, when so specified.

The illustrations show the simplicity of the tool—without projecting adjusting handles or loose parts. It is, in fact, an adjustable Die Stock with the strength of the common solid screw plate—to this extraordinary simplicity is added an increased measure of durability and efficiency.



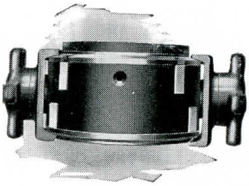
No. 53 Improved Ohio
Threads ¼, ⅜, ½, ¾, 1 and 1¼-inch

The adjusting plate for holding and setting the dies is machined by a special process which insures absolute accuracy. Threads may be cut as deep or shallow as required to suit any pipe fittings. Adjustable pipe guides for centering the pipe are of similar construction and automatically bring the pipe to an exact center.

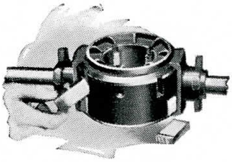
Description of other sizes, price data, and information on pages 23, 24 and 25.

Improved Ohio Die Plates

The Improved Ohio is simplicity itself. The Body of the Tool; the Top Plate, which adjusts the Dies; and the Bottom Plate, which adjusts the Pipe Guides; these three Parts are practically the entire Tool



THE operation of the Improved Ohio is readily understood by the following illustrations. It will be noticed that the upper (die) plate and the lower (guide) plate have beveled edges, against which fit two locking clamps which are actuated by two hand wheels on the handle lugs. When these wheels are tightened, the clamps lock against the beveled edges of the die and guide plates—holding them absolutely rigid. This wedge locking device is recognized by engineers as the most efficient form of lock that could be designed. It actually transforms the adjustable die stock into one solid piece during the threading operation.

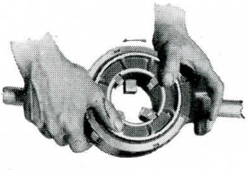


Each set of dies cuts two or more sizes. To change sets of dies, simply withdraw as shown in illustration.

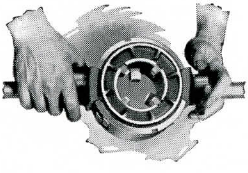
The threading dies are made from the finest Vanadium tool steel, of the same formula as used by us for many years in our well-known "Beaver" Die Stocks. Steel and wrought iron pipe are screwed equally well and perfect joints are assured by the use of the Improved Ohio screw plates.

Finish—Improved Ohio's are well finished with two coats of black enamel baked on—machined parts bright finished.

Durability—It is worthy of mention that Improved Ohio Die Stocks are the only Adjustable Die Plates manufactured in which there is not a single screw or bolt. This fact, together with the use of the best materials and simple construction assures their indefinite service.

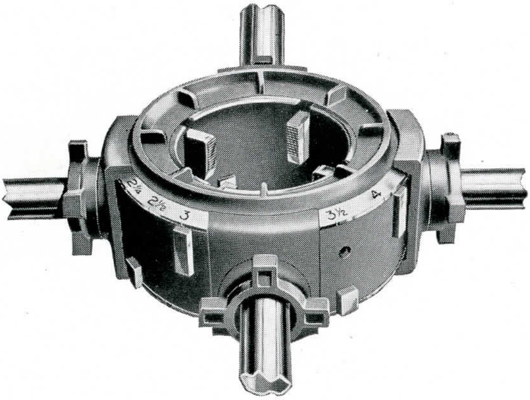


To "set" dies to any size pipe desired, revolve the top plate as indicated. Pipe guides are set in same manner.



Method of locking

Simply turning of the hand wheels as shown in the illustration locks both the dies and pipe guides against slipping. A turn of the hand wheels in the opposite direction frees the dies and guides instantly. The tool can be instantly disassembled, for cleaning, without tools of any description.



No. 56, Threads 1¾, 2, 2¼, 2½, 2¾, 3-in.
No. 57, Threads 1, 1¼, 1½, 1¾, 2, 2¼, 2½, 2¾, 3-in.
No. 58, Threads 2¼, 2½, 2¾, 3, 3½, 4-in.

Improved Ohio Die Plates

Especially Designed for Export Trade

BY reason of unique design and reinforced construction these *Improved Ohio* Die Stocks for large pipe possess exceptional strength and light weight. They are similar in construction to the smaller sizes except four handles are furnished. The three sizes listed above are identical in design, differing only in size.

Improved Ohio Die Stocks are guaranteed not to slip or vary from the standard mark in threading the hardest pipe.

The dies are made with special attention to produce smooth and perfect threads in the British Pipe Standard in one cut. The threads produced conform to the requisites of screwing tubes and pipe in all countries and are equally adapted for short threads or long screws with lock nuts.

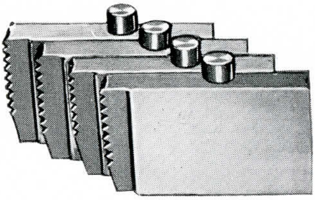
While these large sized Improved Ohio's are perfectly adapted to the British Pipe Standard, naturally they do not compare in ease of operation to Beaver Easy-Working Die Stocks—the latter should always be specified for American Briggs Standard work.

Cut-off Attachment. Cut-off attachments are not furnished with the *Improved Ohio* Die Stocks. The experience of all authorities—including engineers, practical users and manufacturers—prove that it is impossible to incorporate a *satisfactory* cutting-off device in a threading tool. For cutting pipe, we earnestly recommend the use of the modern *"Beaver" Square End Pipe Cutters.*

Dies

Improved Ohio Die Stocks

As the service of a threading tool depends mainly on the threading chasers, their quality should claim first attention. But one grade of steel is used in all threading dies. This steel is made to a formula containing the requisite amount of vanadium and tungsten and never varies. The tempering and heat treatment is accomplished by exact methods, producing absolute uniformity in the product.


A Set of Extra Dies

Improved Ohio Dies are properly machined and ground not only to cut perfect threads, but to give long service. Each size cuts two or more sizes as indicated. When dull they may be ground the same as any edged tool. Right or left-hand dies may be used in any size of these tools.

List Prices, Sizes, Etc., of Complete Improved Ohio Tools

Tool No.	Threading Range Inches	List Prices	Weight Lbs.		Code Word
			Net	Export	
53	* ¼ to 1¼	$17.00	12	18	*Acgyb*
54	1 to 2	22.00	16½	25	*Achaj*
55	½ to 2	25.00	17½	28	*Achba*
55½	¼ to 2	28.00	18	28	*Achca*
56	1¾ to 3	40.00	40	58	*Achci*
57	1 to 3	47.00	42	60	*Achef*
58	2¼ to 4	55.00	52	75	*Achfi*

*⅛-inch dies can be furnished, upon request, at extra cost.
If left-hand dies are desired, use code word "lefto"

List Price of EXTRA DIES for Improved Ohio Tools

Tool No.	Set Dies Inches	Price	Code	Tool No.	Set Dies Inches	Price	Code
53	⅛	$2.50	*Achho*	55	1½ and 2	$3.00	*Acigu*
53	¼ and ⅜	2.50	*Achid*	56	1¾, 2 and 2¼	4.50	*Acihs*
53	½ and ¾	2.50	*Aciam*	56	2½, 2¾ and 3	4.50	*Acilk*
53	1 and 1¼	2.50	*Acibi*	57	1, 1¼ and 1½	4.50	*Acime*
54	1 and 1¼	3.00	*Aciaw*	57	1¾, 2 and 2¼	4.50	*Ackec*
54	1½ and 2	3.00	*Aciao*	57	2½, 2¾ and 3	4.50	*Ackiz*
*55½	¼ and ⅜	3.00	*Achid*	58	2¼, 2½, 2¾ and 3	5.00	*Acmas*
55	½ and ¾	3.00	*Aciet*	58	3¼, 3½, 3¾ and 4	5.00	*Acmym*
55	1 and 1¼	3.00	*Acmeo*				

If extra *left-hand* dies are desired, be sure to specify by code word "lefti."
*The ½ x ¾, 1 x 1¼, 1½ x 2-inch dies for No. 55 are interchangeable in No. 55½.

Manufactured by

The Borden Company, Warren, Ohio, U. S. A.

BEAVER

Beaver Square-End Pipe Cutters

SPECIAL attention is requested to the following pages devoted to Beaver Square-End Pipe Cutters. It is our earnest belief these tools are the most important contribution in Pipe Working Tools in a decade.

In the thirteen years Beaver Square-End Pipe Cutters have been on the market their use has been extended to every civilized country in the world. We believe it is a safe statement that none of these users have returned to the old methods.

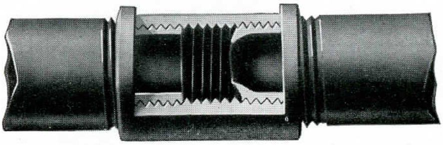
Were it possible to manufacture Beaver Cutters as cheaply as the ordinary wheel cutters, without doubt Beaver Square-End Pipe Cutters would be the universal tools in use. It is equally true they are much the cheaper tool in the long run—more and longer service in relation to cost.

We are proud of Beaver Square-End Cutters—we stake our reputation on these tools.

The Borden Company

Beaver Square-End Pipe Cutters

BEAVER Square-End Pipe Cutters are recognized as the greatest improvement in Pipe Cutting Tools in a generation. In fact, until these tools were introduced to the trade in 1911 real pipe cutters did not exist. So-called pipe cutters, in which wheels were used to gradually force pipe apart, have long been an abomination to the user; a knife cutter was recognized as the proper method, but, except in power machines the practical application of a knife cutter had never been attained until the "Beaver" Square-End Pipe Cutter was invented.



Pipe Joint Cut Open to Show Comparison of BEAVER-CUT and Wheel-Cut Pipe. (Note Burr on Wheel-Cut End)

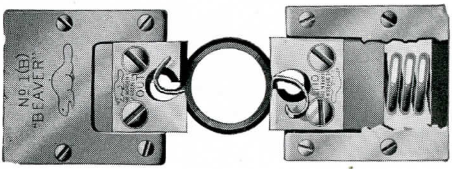


Fig. 1—BEAVER Cutting Principle

The Beaver Square-End Pipe Cutter owes its success to the fundamental features —knives which have a guide riding ahead to limit the depth of the cut, and a continuous *automatic* feed. It is easy to understand that a bare knife on the end of a screw would dig into the pipe too deep and break, therefore the Beaver Cutter has the cutting knives so formed that a guide limits the cut to just what the knife will stand. Likewise, as the operator cannot continually feed the knives while turning the tool, the constant and continued feeding of a Beaver Cutter is obtainable by a heavy spring that works all the time without attention from the user.

Operation of the Beaver Square-End Cutter

THE Beaver Cutter is a lathe tool. The cutting is done by two steel knives which "turn" out a thin shaving of metal until the pipe is severed (see Fig. 1). The adjustment of the knives is entirely automatic and fool-proof.

Fig. 1 illustrates the cutting knives mounted in position. A section of the right hand cover plate is removed showing one of the powerful feed springs. The simple action of centering the tool on the pipe compresses these powerful springs, which automatically hold the knives against the pipe, and a shaving is "turned" off by the knives as the tool revolves. Fig. 2 shows the chips cut from two-inch steel pipe by a Beaver Cutter. Cutters that squeeze pipe do not throw off chips. Fig. 3 is a section of steel pipe partially cut through with a Beaver Cutter. The cutting knives have been removed to show the curled shavings. Note the square-end cut.

The disadvantages of ordinary wheel and roller cutters are more serious than is often apparent —all users know of the trouble experienced in making them "track" and the labor involved, but proper consideration of the result of their use is often lacking.

Wheel cutters raise a burr on the outside of the pipe, which makes it hard to start the threading dies. The dies start easily on pipe cut off with a Beaver, and the thread is straight because the die is bound to start straight. The inside burr raised by a wheel cutter reduces the area of pipe amazingly—¼-inch pipe is reduced 52 per cent; 1-inch pipe, 19 per cent, etc., when cut with wheel cutters. There is no loss of area in pipe cut with a Beaver Cutter, its use is therefore approved by the National Board of Fire Underwriters, Railroads, and all Contractors who would avoid reaming and at the same time give full value in the pipe lines they install.

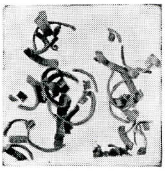


Fig. 2

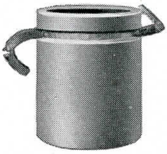


Fig. 3

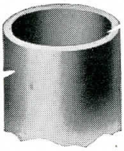


Fig. 4—Beaver-Cut

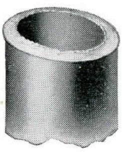
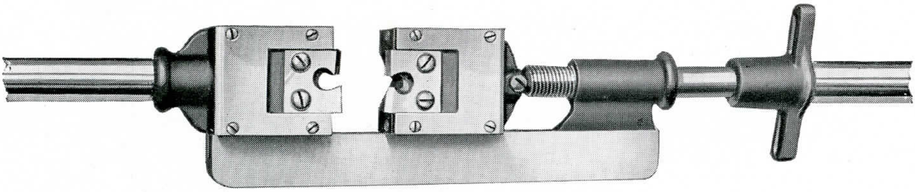


Fig. 5—Wheel-Cut



No. 1 Cuts ⅛ to 1-inch Pipe
No. 5 Cuts ½ to 2-inch Pipe

Beaver Square-End Pipe Cutters

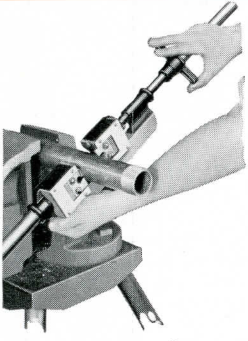
THE design of these tools is exceedingly simple, consisting of a strong rigid steel frame with a fixed "V" centering-jaw and a movable "V" centering-jaw operated by the screw handle. The cutting knives backed up by the heavy coil spring normally extend beyond the guiding jaws. Therefore, when the tool is centered on the pipe these knives are pushed back, compressing the feeding springs and the tool is ready to operate without further feeding.

Beaver Square-End Pipe Cutters cut off pipe absolutely square and without causing any burr, and operate more easily and rapidly than the old style wheel cutters. No reaming or filing is necessary to free the interior of the pipe line from burrs. When Beaver Square-End Pipe Cutters are used the full capacity in pipe lines is obtained and maintained because there cannot be any loss due to burrs.

Beaver Square-End Pipe Cutters, Nos. 1 and 5, are now being used by nearly 150,000 plumbers, fitters, etc. who are very enthusiastic over these tools and who would not be willing, under any circumstances, to go back to the old style wheel cutters.

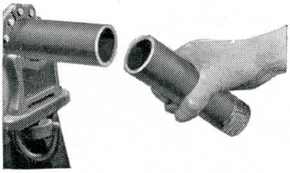
The knives give hundreds of cuts without re-grinding—two extra sets are furnished with each tool. When dull they may be re-ground by User (template and directions with each tool) or sent to us to be re-ground at a nominal charge.

Best of all, Beaver Square-End Pipe Cutters not only actually cut pipe as it should be cut, but they do so *indefinitely*. The construction is far stronger than ordinary wheel cutters—and Beaver will be found to outlast many sets of these ordinary tools. A trial will convince you of the unusual merits of the tool.



Placing a Beaver Cutter on the Pipe

Turn the Handle—No Feeding



A Square-End Cut—No Burrs

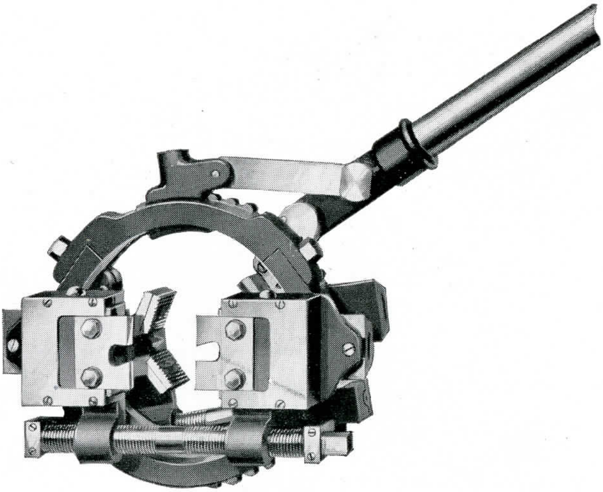
Complete Tools, List Prices, Data, Etc.

No.	Cuts Pipe Sizes	List Price Complete	Code Word	Weight, Lbs.	
				Net	Shipping
1	⅛ to 1-in.	$18.00	*Acevo*	7	9
5	½ to 2-in.	20.00	*Acexi*	13	15

Extra Knives, Springs, Etc.

No.	Sets of Knives to Cut	List Price Per Set	Code Word	*List Price Re-sharpening	Springs Per Set
1	⅛ to 1-in.	$1.20	*Acfam*	$0.30	$0.25
5	½ to 2-in.	1.50	*Acfet*	.40	.25

*Knives for re-grinding can be mailed to us, and will be returned postage paid.



Beaver Square-End Pipe Cutter

No. 10, 2½ to 4-Inch Ratchet Pipe Cutter

THIS tool, cutting 2½, 3, 3½ and 4-inch pipe, is a natural development of the smaller sizes of Beaver Square-End Pipe Cutters illustrated on the preceding page. It was placed on the market several years ago at the request of many concerns who had found the small Beavers invaluable in their pipe work.

The same knife construction and automatic feed used in smaller tools is used in the No. 10. In fact, the only different features are those made necessary by the introduction of a ratchet. The general principle is the same.

The frame of the No. 10 is divided into two principal parts—a chuck, or gripping part, and the cutting section which carries the knives and is revolved on the frame by a ratchet. The tool is a solid and complete unit of cast steel, bronzed-bushed and made to wear indefinitely. There are no loose parts, and no adjustment is necessary.

The cutter is usually placed over the end of the pipe—but when desired can be placed around a pipe line as in the case of a main, riser, etc.

A right-and-left-hand grip screw quickly centers the No. 10 cutter on the pipe. Another right-and-left-hand screw sets the knives under cutting tension. A simple ratchet movement turns the cutter and cuts the pipe quickly and easily. There is no comparison in the labor of cutting off a 4-inch pipe with this tool and the tedious job of severing it with a wheel cutter.

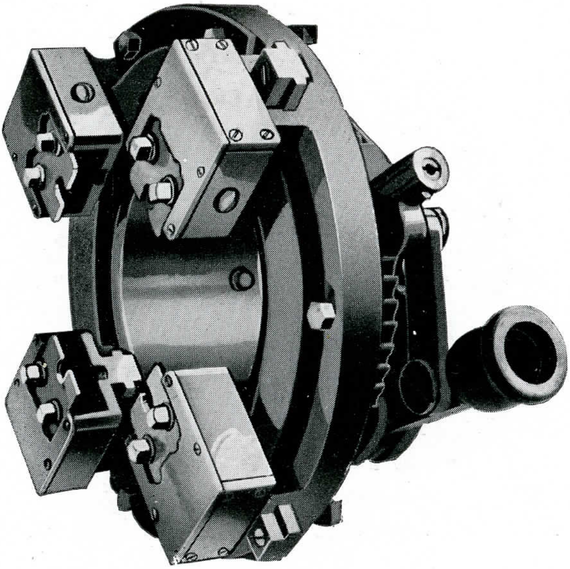
Complete Tools, List Price, Data, Etc.

No.	Cuts Pipe Sizes	List Price Complete	Code Word	Weight, Lbs.	
				Net	Shipping
10	2½ to 4-in.	$90.00	*Acgam*	46	55

Extra Knives, Springs, Etc.

No.	Sets of Knives to Cut	List Price Per Set	Code Word	*List Price Re-sharpening	Springs Per Set
10	2½ to 4-in.	$2.50	*Acgor*	$0.70	$0.25

*Knives for re-grinding can be mailed to us, and will be returned postage paid.



Beaver Square-End Pipe Cutter

No. 15, 2½ to 6-inch Beaver Square-End Pipe Cutter

THE No. 15, 2½ to 6-inch Beaver Square-End Cutter is rated by users the most valuable cutter of our line. The efficiency of the smaller sizes is still more pronounced on large pipe sizes where ordinary tools most often fail.

While the same principle is employed, the No. 15 Beaver Cutter is a good deal more of a machine than the smaller sizes, having four cutting knives against two in the smaller tools. Its range of 2½ to 6 inches without changing the knives make it a most valuable tool to all contractors.

Because four cutting knives are used, it is possible to cut 6-inch pipe almost as rapidly as smaller sizes—four knives are at work instead of two. The knives are centered on the pipe, and the feed-springs compressed by simply turning a "T" handle. Heavy grip screws hold the cutter on the pipe. The ratchet drive makes it possible to use the No. 15 in a ditch, at a bench—in fact anywhere the pipe can be used. When necessary, the cutter can be opened to put around a running pipe line.

Like all Beaver Tools, the No. 15 is made from the best materials obtainable, entirely in our own large plant under exacting supervision. The frame is of cast steel throughout; all bearings are bronze-bushed.

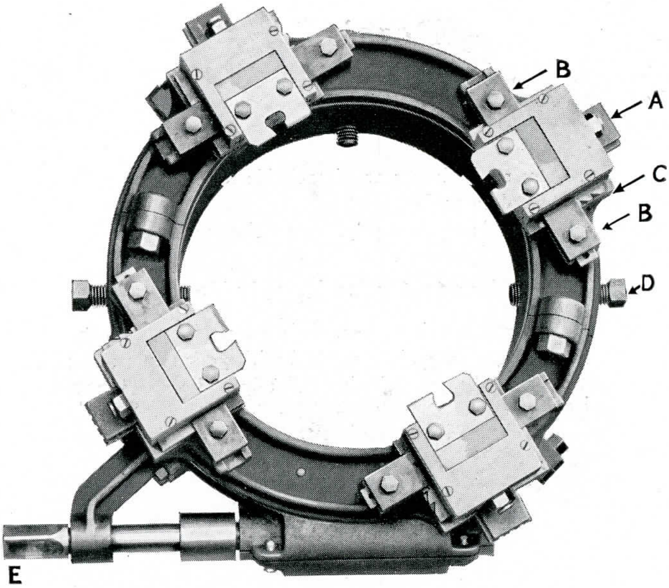
Complete Tools, List Price, Data, Etc.

No.	Cuts Pipe Sizes	List Price Complete	Code Word	Weight, Lbs. Net	Weight, Lbs. Shipping
15	2½ to 6-in.	$180.00	*Acgek*	75	100

Extra Knives, Springs, Etc.

No.	Sets of Knives to Cut	List Price Per Set	Code Word	*List Price Re-sharpening	Springs Per Set
15	2½ to 6-in.	$5.00	*Acgun*	$1.40	$1.40

*Knives for re-grinding can be mailed to us, and will be returned postage paid.



Beaver Square-End Pipe Cutter

No. 106, 2½ to 6-inch — No. 108, 4½ to 8-inch
No. 112, 9 to 12-inch

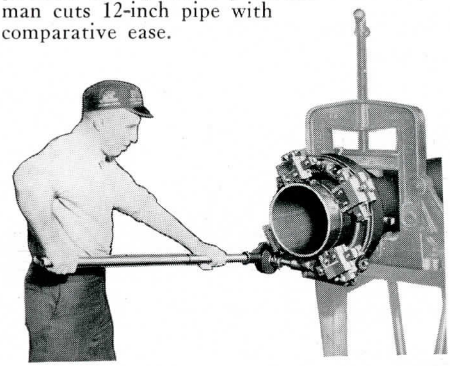
No. 106, 108 and 112 Beaver Square-End Pipe Cutters are the latest additions to the Beaver line of Pipe Cutters. With the development of these three tools it is now possible for you to employ the Beaver Square-End cutting principle on all sizes from ⅛ to 12 inches—an advantage fully appreciated by all who have enjoyed the speed, convenience and economy of other sizes of Beaver Square-End Cutters.

No. 106, 108 and 112 Beaver Cutters are the same in design, differing only in size to cut the larger pipe sizes that come within their range. They employ the same knife construction as used in the Beavers No. 10 and 15 but on account of their greater capacity the adjustment to the different sizes is made by adjusting the knife blocks separately.

Instead of the side ratchet movement used in No. 10 and 15 Cutters, these tools are operated by a ratchet handle applied to the driving pinion "E" which in turn operates a worm gear.

These new Cutters can be operated in any position on the pipe by hand, or, when desired, power can be applied instead of the hand Ratchet on the driving pinion at "E."

Like all Beaver tools, these new cutters are the last word in scientific design. They are made of the best of materials, steel and malleable iron, and their rugged construction enables them to give years of unfailing service even though given severe use day in and day out. They are easily portable from place to place and likewise are easily placed on the pipe ready for cutting. One man cuts 12-inch pipe with comparative ease.



List Prices—Complete Tools

No.	Cuts Sizes	List Price	Code Word	Wt. Lbs. Net Shpg.
106	2½ to 6″	$180.00	*Acgen*	130
108	4½ to 8″	225.00	*Acget*	190
112	9 to 12″	300.00	*Acgil*	235

Extra Knives, Springs, Etc.

No.	Knives To Cut	List Per Set	Code Word	List Price Re-sharpening	Springs Per Set
106	2½ to 6″	$5.00	*Acger*	$1.40	$ .50
108	4½ to 8″	6.00	*Acgev*	1.40	.50
112	9 to 12″	7.50	*Acgip*	2.00	1.50

Repair Parts

Repair parts are seldom required for Beaver Tools, but when ordered can always be depended upon to fit perfectly. All parts are interchangeable because made in *standard* jigs in our own factory.

All screws and small parts are *Standard* threads, procurable everywhere. Handles are *Standard* Pipe Threads.

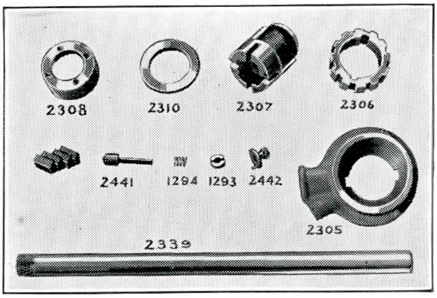
Leader Screws on Beaver Die Stocks are detachable and easily attached.

For extra dies see complete tools

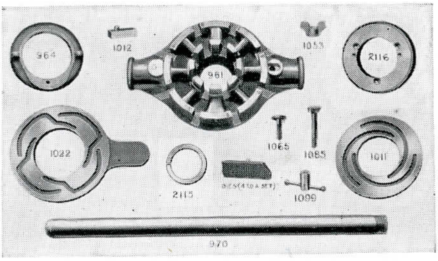
If we can serve you let us know promptly. We feel our responsibility exists as long as you use Beaver Tools.

How to Order Repair Parts

1. Kindly prepay all transportation charges on tools returned to us for repairs.
2. Please see that all shipments are plainly marked with your name and address.
3. When tool (or part) is returned to us, write immediately and advise that same has been shipped—giving date, and name of transportation company.
4. When returning a die stock, for instance, do not return the handles, bushings, etc.
5. When ordering repair parts always give the *number* (and *letter*, if any) stamped on the face. of the die stock or cutter and the number and the name of the part wanted: thus—One (1) No. 809 Retaining Ring for No. 25-B Die Stock.
6. Orders for repair parts should be accompanied with remittance to avoid small ledger accounts. Please include postage.
7. State whether you want part shipped by express, parcel post or freight.



No. 3 Beaver Jr. Ratchet
⅛ to 1-inch



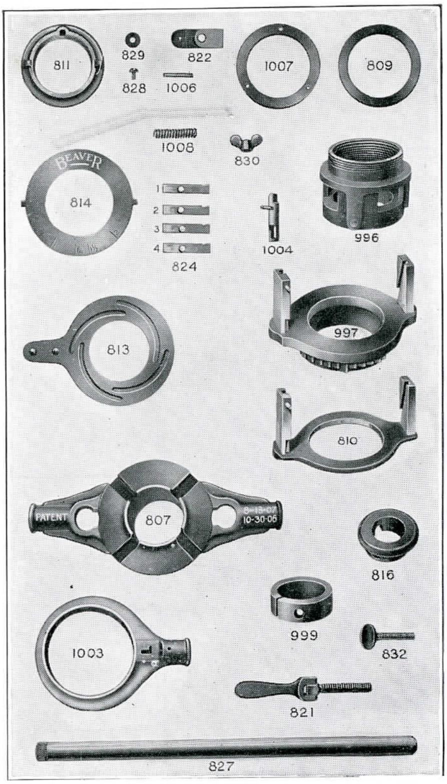
No. 6 Beaverette
¼ to ¾-inch

Part No.	Name	List Price
2305	Drive Ring	$2.00
2306	Ratchet Wheel	1.00
2684	Die Head (⅛″ or ¼″)	1.50
2333	Die Head (⅜″)	1.50
2329	Die Head (½″)	1.75
2325	Die Head (¾″)	1.75
2307	Die Head (1″)	2.00
2334	Die Head Cap (⅛″ or ¼″ or ⅜″)	.50
2330	Die Head Cap (½″)	.50
2326	Die Head Cap (¾″)	.50
2308	Die Head Cap (1″)	.50
2310	Ratchet Wheel Ring	.30
2441	Ratchet Pawl	.40
1293	Ratchet Pawl Nut	.20
2442	Ratchet Pawl Washer	.20
2659	Ratchet Pawl Spring	.20
----	Dies, Any size	2.50
2339	Handle	.75

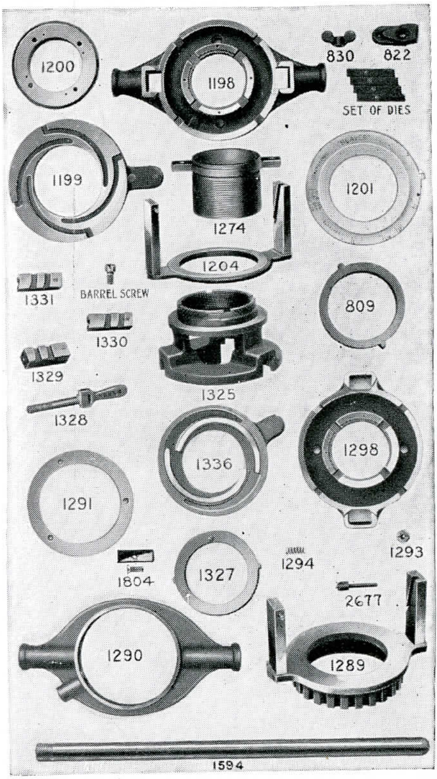
Part No.	Name	List Price
961	Die Head	$5.30
964	Tension Screw Top Collar	.50
970	Handles, each	.75
1011	Guide Cam	.80
1012	Guide Blocks, set of 3	.50
1022	Chaser Cam	2.00
1053	Wing Nut	.10
1065	Guide Cam Lock Bolt	.20
1085	Chaser Cam Lock Bolt	.30
1099	Chaser Cam Lock Nut	.30
2115	Tension Spring for Guide Cam	.30
2116	Bottom Collar	.50
	¼-⅜ Dies R. or L., per set	3.00
	½-¾ Dies R. or L., per set	3.00
	⅛ Dies R. or L., per set	3.00

BEAVER

Repair Parts--Nos. 20, 22, 25, 26, 30 and 31



No. 20 Plain—1 to 2-inch
No. 22 Ratchet—1 to 2-inch



No. 25 Plain—1 to 2-inch
No. 26 Ratchet—1 to 2-inch
No. 30 Ratchet—2 to 3-inch
(11½ thread—oil-well tubing)

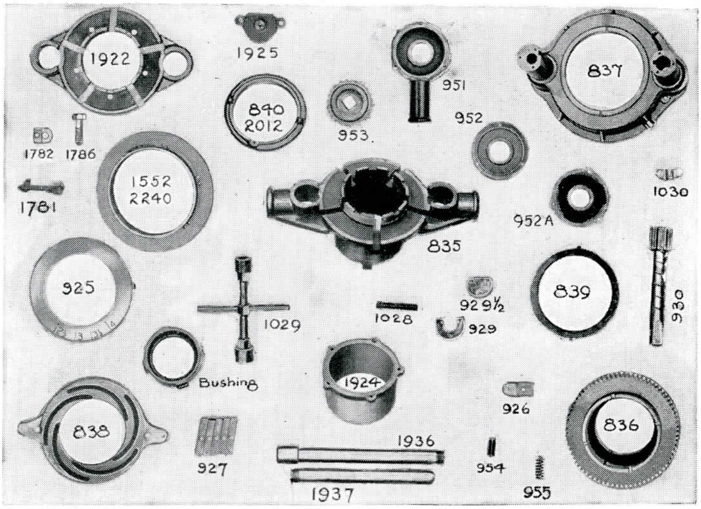
Part No.	Name	List Price
807	Die Head	$8.00
809	Retaining Ring	.60
810	Post Ring with Posts	4.00
811	Tension Screw Top Collar	1.00
813	Chaser Cam with Stud Bolt	3.00
814	Dial Plate	2.00
816	1-in. Bushing	.50
817	1¼-in. Bushing	.50
818	1½-in. Bushing	.50
821	Grip Screw with Handle	.30
822	Cam Clamp	.50
824	Dies, per set, R. H. only	3.50
827	Handles, each	1.00
828	Screw for Part 811	.10
829	Washer for Part 811	.10
830	Cam Wing Nut	.20
832	Thumb Screws, each	.25
996	Pipe Holder	3.00
997	Ratchet Wheel and Posts	4.00
999	2-in. Bushing	.50
1003	Ratchet Driving Ring	3.50
1004	Ratchet Pawl with Pin	.60
1006	Ratchet Stop Pin	.10
1007	Ratchet Retaining Ring	.50
1008	Ratchet Pawl Spring	.20
	Complete No. 25B or 26B universal chuck for use on our former No. 20 or 22 stocks (say which)	8.50

Part No.		Name	List Price	
No. 25 26	No. 30 31		No. 25 26	No. 30 31
809	1406	Retaining Ring	$0.60	$1.60
822	926	Cam Clamp	.50	.60
830	830	Cam Wing Nut	.20	.20
1198	----	Die Head	4.00	----
1199	1405	Die Chaser Cam	3.00	9.00
1200	1403	Top Collar	.80	3.00
1201	1404	Dial Plate	2.00	4.00
1204	----	Side Post Plate with Posts	4.00	----
1274	----	Threaded Barrel	1.50	----
1289	1400	Ratchet Wheel with Posts	4.50	7.00
1290	1401	Ratchet Driving Ring	3.50	6.00
1291	1402	Ratchet Retaining Ring	.50	1.00
2677	1411	Ratchet Pawl	.25	.60
1293	1412	Ratchet Pawl Nut	.20	.25
1294	1418	Ratchet Pawl Spring	.20	.20
1298	1398	Ratchet Die Head	4.00	15.00
*1325	1399	Leader Nut	3.00	7.00
1327	----	Bottom Collar	.75	----
1328	1028	Grip Screw, each	.50	.60
1329	----	Grip Guide Block No. 1	.65	----
1330	----	Solid Guide Block No. 2	.60	----
1331	----	Solid Guide Block No. 3	.60	----
1336	----	Guide Cam	2.50	----
1594	958	Handle	1.00	2.00
1321	1419	Dies	3.50	9.00
	1029	Wrench for Grip Screws	----	.80
	1408	Pipe Bushing, any size each	----	1.40
1804	----	Bottom Collar Lock and Screw	.20	----
2678	----	Ratchet Pawl Washer	.20	----

*For No. 26 Order Part No. 1241

BEAVER
Easy-Working Die Stocks Large Sizes

The parts illustrated are for the No. 41 (2½ to 4-inch). However, these parts are similar in appearance to corresponding parts of the No. 61 (2½ to 6-inch), No. 80 (4½ to 8-inch), and No. 90 (9 to 12-inch). When ordering, be sure to specify the number and threading range of tool as well as correct part number.



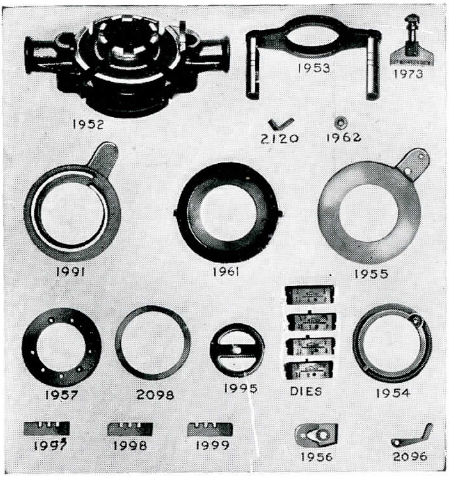
Repair Parts---Nos. 41, 61, 80, 90

Name	No. 41 2½ to 4		No. 61 2½ to 6		No. 80 4½ to 8		No. 90 9 to 12	
	Part No.	List Price	Part No.	List Price	Part No.	List Price	Part No.	List Price
Leader Vise (cast steel)	836	$17.00	1244	$39.00	1557	$55.00	2243	$65.00
Pinion Shaft Case	837	16.00	1243	30.00	1556	42.00	2242	55.00
Die Chaser Cam	838	11.00	2011	20.00	1553	28.00	2239	40.00
Retaining Ring	839	2.00	1242	6.00	1555	8.50	2244	12.00
Top Collar	840	3.00	2012	7.00	1552	10.00	2240	12.00
Dial Plate	925	4.00	----	----	----	----	----	----
Die Cam Lock Bolt	----	----	1786	.20	1786	.20	1786	.20
Cam Clamps, each	926	.60	926	.60	----	----	----	----
Pinion Retaining Washer	929	.50	929	.50	1784	.70	1784	.70
Pinion Shaft Case Washer	929½	.50	929½	.50	1785	.70	1785	.70
Pinion	930	9.00	1253	12.00	1253	17.00	2250	25.00
Ratchet Frame	951	3.50	951	3.50	951	3.50	951	3.50
Ratchet Cover	952	1.20	952	1.20	952	1.20	952	1.20
Ratchet Cover	952A	1.20	952A	1.20	952A	1.20	952A	1.20
Ratchet Wheel	953	1.20	953	1.20	953	1.20	953	1.20
Ratchet Pawl	954	.40	954	.40	954	.40	954	.40
Ratchet Pawl Spring	955	.20	955	.20	955	.20	955	.20
Ratchet Disc	956	.10	956	.10	956	.10	956	.10
Grip Screws, each (tool steel)	1028	.60	2267	.80	1787	1.50	2267	1.50
Wrench, State Tool Number	1029	.80	----	1.00	----	1.50	----	2.00
Wing Nut	1030	.30	----	----	----	----	----	----
*Die Head	1922	10.50	2010	17.50	1551	25.00	2238	40.00
*Die Head and Barrel (old style)	835	18.00	----	----	----	----	----	----
Threaded Barrel (cast steel)	1924	6.00	1927	10.00	1554	15.00	2257	20.00
Pinion Support	1925	1.50	1926	1.50	1662	2.00	2246	2.50
Handle, Double-End	1936	1.25	1936	1.25	1936	1.25	1936	1.25
Handle, Single-End	1937	.75	1937	.75	958	.75	2262	.75
Cam Lock Screw	----	----	1988	.20	1988	.20	1988	.20
Pinion Bushing—Lower	----	----	----	----	----	2.50	1783	3.50
Pinion Bushing—Upper	----	----	----	----	1783	3.50	1783	3.50
Cam Stop Screw	----	----	1921	.25	1921	.25	2259	.25
Cam Lock Plate	----	----	1781	2.00	1781	2.00	2241	2.00
Cam Lock Nut	----	----	1782	1.50	1782	1.50	2256	1.50
Barrel Screw, each	----	.20	----	.20	----	.20	----	.20
Pipe Bushings (state size)	----	1.80	----	3.50	----	5.00	----	5.00
Threading Dies, per set: 2½ to 4, R. H. only	----	9.00	----	----	----	----	----	----
2½ to 3½, R. H. only	----	----	----	14.00	----	----	----	----
4 to 6, R. H. only	----	----	----	14.00	----	----	----	----
4½ to 6, R. H. only	----	----	----	----	1791	20.00	----	----
7 to 8, R. H. only	----	----	----	----	1792	20.00	----	----
9 to 10, R. H. only	----	----	----	----	----	----	----	30.00
11 to 12, R. H. only	----	----	----	----	----	----	----	30.00

*Die Head (See No. 835) was first cast in one piece, but is now made in two pieces—head (1922) and threaded barrel (1924)—for cheapness in furnishing repairs.

Repair Parts

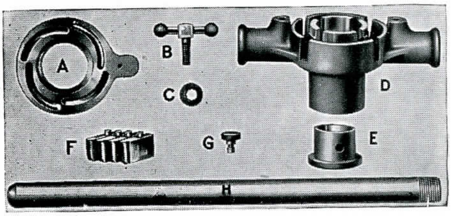
NOTE—See following page in ordering Repairs for No. 1 and No. 5 Improved All Steel Frame Cutters described on Page 28.



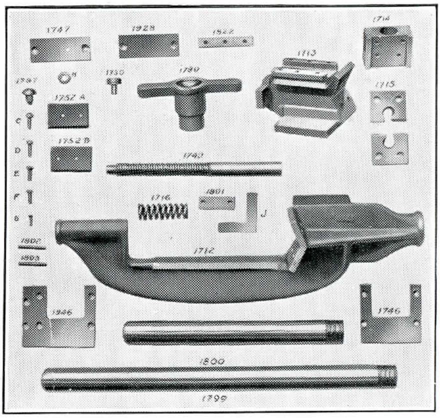
No. 210—Beaver Cross-Bar

Part No.	Name	List Price
1952	Die Head	$3.50
1953	Cross-Bar with Posts	2.00
1954	Top Collar	.40
1955	Die Chaser Cam	1.50
1956	Cam Clamp	.30
1957	Bottom Collar	.60
1961	Dial Plate	1.00
1962	Top Collar Washer	.10
1973	Swivel Plug Blade	.50
1991	Guide Cam	1.20
1995	Bar Nut	.60
1997	Guide Block No. 1	.30
1998	Guide Block No. 2	.30
1999	Guide Block No. 3	.30
2008	Handle, each	.75
2096	Side Post Lever	.50
2098	Spring Washer	.20
2120	Post Stop	.10
Dies	½x¾ and 1x1¼-in. R. or L. Double Ended	5.00
Dies	¼x⅜ and ½x¾-in. R. or L. Double Ended	5.00
Dies	¼—⅜ R. or L. Single Ended	3.50
Dies	½—¾ R. or L. Single Ended	3.50
Dies	1—1¼-in., R. or L. Single Ended	3.50

Parts 1953 and 1973 are always sent assembled.



Warren Die Stocks
Nos. 120, 121, 122 and 123



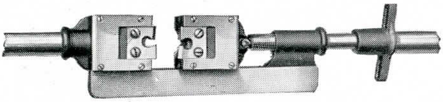
Old Model No. 1 and 5, Beaver Square-End Cutters

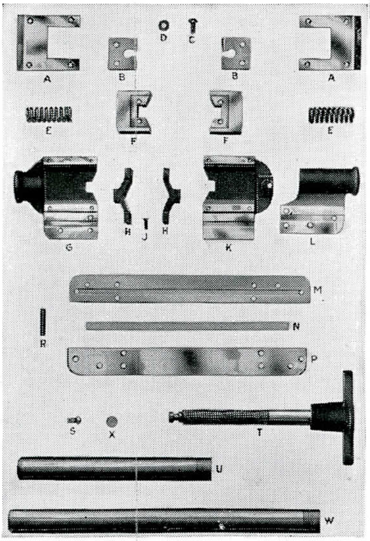
Part No.		Name	List Price	
No. 1	No. 5		No. 1	No. 5
1811	1712	Frame	$5.00	$5.50
1812	1713	Sliding Jaw	2.25	2.50
1815	1714	Knife Block	2.00	2.00
1823	1715	Knives (set)	1.20	1.50
1868	1716	Knife Spring (set)	.25	.25
1943	1746	Cover Plate	.30	.30
1818	1747	Spring Plate for Frame	.20	.30
1820	1749	Feed Screw with Cross Handle	1.25	1.50
1819	1750	Feed Screw Plug	.40	.40
1824A	1752A	Jaw Facing No. 1	.50	.30
1824B	1752B	Jaw Facing No. 2	.50	.30
1869	1797	Knife Block Stop Screw	.10	.10
1827	1799	Long Pipe Handle	.60	.75
1828	1800	Short Pipe Handle	.60	.75
1821	1801	Knife Backing Strip	.20	.30
1829	1802	Pin for Feed Screw Plug	----	----
1830	1803	Feed Handle Pin	----	----
1832	1822	Sliding Jaw Gib	.20	.20
1944	1946	Cover Plate	.35	.35
1818	1928	Spring Plate for Sliding Jaw	.20	.30
C	C	Screws for Knives	----	----
D	D	Screws for Sliding Jaw Gibs	----	----
E	E	Screws for Jaw Facings	----	----
F	F	Screws for Spring Plate	----	----
G	G	Screws for Cover Plate	----	----
H	H	Knife Screw Washers	----	----
J	J	Template for Grinding Knives	----	----

WARREN DIE STOCKS	120 ¼ & ⅜	121 ½ & ¾	122 1 & 1¼	123 1½ & 2
A. Die Chaser Cam	$1.50	$2.00	$2.25	$2.50
B. Cam Lock Bolt	.40	.40	.60	.60
C. Cam Lock Bolt Washer	.10	.10	.10	.10
D. Die Head	2.00	2.15	2.25	3.50
E. Bushings (state size)	.25	.30	.40	.50
F. Dies (set) R. or L.	1.50	1.60	2.00	2.50
G. Bushings Set Screw	.20	.20	.25	.25
H. Handles, each	.50	.75	1.00	1.50

Repair Parts

Improved Beaver Square-End Cutters—No. 1 and No. 5





In ordering, mention letter, name of part and number of tool.

Letter	Part No.		Name	List	
	No. 1	No. 5		No. 1	No. 5
A	2690	2458	Cover Plates--------Each	$0.30	$0.30
B	1823	1715	Knives--------------Pair	1.20	1.50
C	----	----	Knife Screws-------For 4	.10	.10
D	----	----	Knife Washers-----For 4	.10	.10
E	1868	1716	Knife Springs--------Pair	.25	.25
F	2688	2459	Knife Blocks--------Each	1.00	1.00
G	2481	2457	Fixed Jaw-----------Each	2.50	3.00
H	2687	2460	Pipe Jaws-----------Each	1.25	1.50
J	----	----	Pipe Jaw Screws----For 4	.10	.10
K	2482	2456	Sliding Jaw---------Each	2.25	2.50
L	2483	2455	Handle Socket------Each	1.25	1.50
M	2686	2463	Key Strip-----------Each	1.40	1.50
N	2696	2697	Key-----------------Each	.20	.25
P	2685	2464	Slide Strip----------Each	.90	1.00
R	2708	2709	Frame Rivets-------For 8	.20	.20
S	2462	2462	Lock Screw---------Each	.10	.10
T	2691	2461	Feed Screws with Handle-----------Each	1.50	2.00
U	1828	1800	Short Pipe Handle--Each	.60	.75
W	1827	1799	Long Pipe Handle---Each	.60	.75
X	2692	2692	Thrust Washer------Each	.10	.10
			Cover Plate Screws--For 8	.20	.20

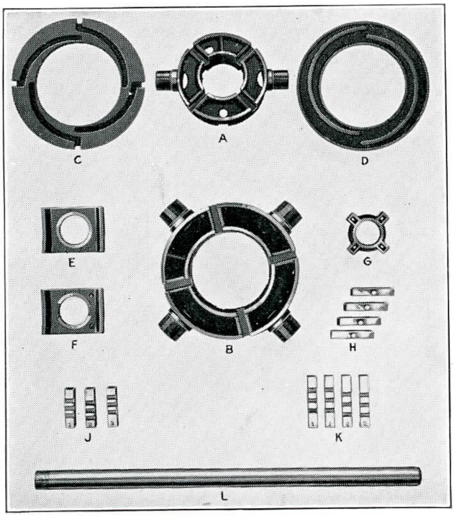
Above are for tools shown on Page 28.

Spare Parts—Improved Ohio Die Stocks

In ordering spare parts, please mention letter, name of part required and the number of the tool.

Letter	Name	Improved Ohio			
		No. 53	No. 54-55	No. 56-57	No. 58
A	Die Head--Each	$4.00	$6.00	----	----
B	Head-------Each	----	----	$8.00	$12.00
C	Die Cam---Each	2.50	3.00	4.00	5.00
D	Guide Cam-Each	1.50	2.00	3.00	4.00
E	Single Cam Clamp----Each	.90	1.00	1.50	1.75
F	Double Cam Clamp----Each	.90	1.00	1.50	1.75
G	Lock Nut--Each	.75	1.00	1.25	1.25
H	Dies----One Set	2.50	3.00	4.50	5.00
J	Guide Blocks One Set	1.00	1.50	----	----
K	Guide Blocks One Set	----	----	2.50	3.00
L	Handles---Each	.75	1.00	2.00	2.00

Above are for tools shown on Pages 22-24.

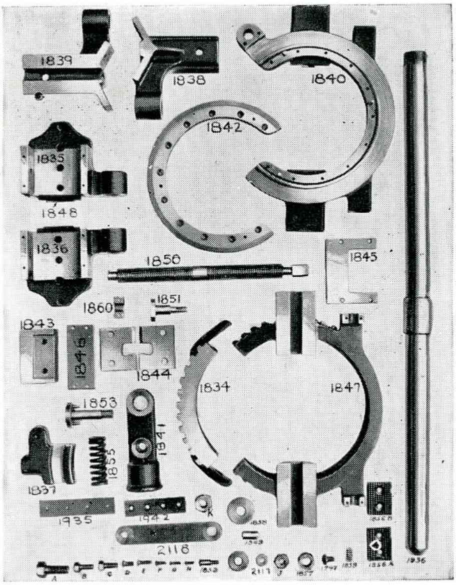


Manufactured By

The Borden Company, Warren, Ohio, U. S. A.

Repair Parts

No. 10 Cutter

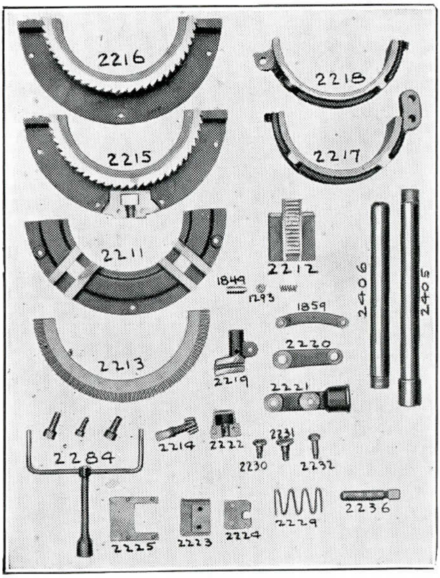


No. 10—Beaver Cutter
2½ to 4-inch

Part No.	Name	List
1797	Knife Block Stop Screw	$0.10
1834	Head Segment	3.00
1835	Slide Block—Left	5.00
1836	Slide Block—Right	5.00
1837	Ratchet	2.00
1838	Grip Block—Right	4.00
1839	Grip Block—Left	4.00
1840	Vise Head	15.00
1841	Handle Socket	2.00
1842	Vise Gib	4.00
1843	Knife Block	2.50
1844	Knives (Per Set)	2.50
1845	Cover Plate	.50
1846	Spring Plate	.30
1847	Knife Head	20.00
1848	Block Facing	.20
1849	Ratchet Pawl	.50
1850	Grip and Feed Screw	3.00
1851	Link Bolt	.75
1852	Ratchet Stud	.30
1853	Lever Bolt	1.00
*2118	Ratchet Link	1.00
1855	Knife Spring (Per Set)	.25
1856A	Grip Jaw Facing No. 1	.50
1856B	Grip Jaw Facing No. 2	.50
1857	Lever Bolt Bushing	.30
1858	Lever Bolt Washer	.20
1859	Ratchet Pawl Spring	.20
1860	Grip Screw Cap	.20
1935	Slide Block Gib	.30
1936	Pipe Handle	2.00
1941	Socket Wrench	.80
1942	Grip Block Gibs	.30
2117	Link Bushing	.20
1293	Ratchet Pawl Nut	.20
A	Screw for 1834	.20
B	Knife Screw	.10
C	Knife Screw	.10
J	Nut for 1851	.10
K	Nut for 1853	.10
-------	Template for Grinding Knives	.25

*Specify if 2118 is flat or curved.

No. 15 Cutter

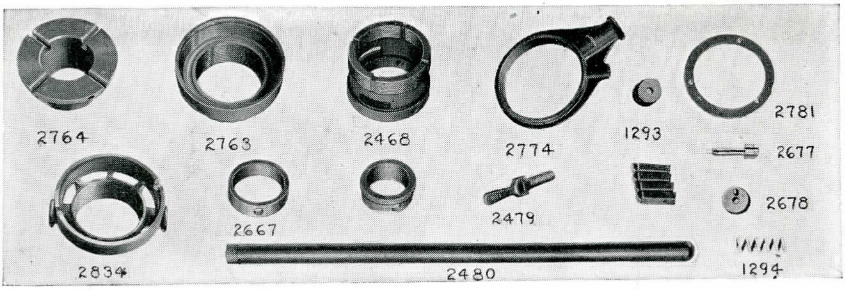


No. 15—Beaver Cutter
2½ to 6-inch

Part No.	Name	List
2211	Slide Block Plate	$11.00
2212	Slide Block	6.00
2213	Scroll, two sections	25.00
2214	Pinion	4.50
2215	Ratchet Frame—Top	7.00
2216	Ratchet Frame—Bottom	6.00
2217	Grip Screw Barrel—Upper	6.00
2218	Grip Screw Barrel—Lower	4.00
2219	Pawl Carrier	1.00
2220	Link	.80
2221	Lever	2.00
2222	Pinion Cap, each	1.00
2223	Knife Block	2.50
2224	Knives, Per Set (4 pieces)	5.00
2225	Cover Plate, each	.50
2229	Knife Spring, per set	1.40
2230	Carrier Bolt	.90
2231	Link Bolt	.80
2232	Lever Bolt	1.00
2236	Grip Screw, each	.80
2405	Handle—Double End	1.25
2406	Handle—Single End	.75
2284	Socket Wrench	1.20
1849	Ratchet Pawl	.40
1293	Ratchet Pawl Nut	.20
1859	Ratchet Pawl Spring	.20
----	Pipe Bushing, (state size)	3.50
----	Knife Block Stop Screw	.20
----	Nut for Link Bolt	.20
----	Knife Screw	.20
----	Template for Grinding Knives	.25

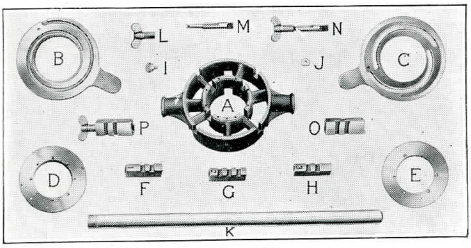
All parts in the construction of Beaver Square-End Pipe Cutters are interchangeable

Repair Parts No. 4 Ratchet—No. 23 Plain



Name	No. 4		No. 23	
	P. No.	List	P. No.	List
Die Head	2764	$5.00	2764	$5.00
Chaser Housing	2763	4.50	2834	5.00
Leader Nut	2468	3.00	2468	3.00
Drive Screws, each	2769	.20	----	----
Drive Ring	2774	2.50	----	----
Ratchet Pawl Nut	1293	.20	----	----
Ratchet Pawl Spring	1294	.20	----	----
Grip Screw	2479	.60	2479	.60
Ratchet Retaining Ring	2781	.60	----	----

Name	No. 4		No. 23	
	P. No.	List	P. No.	List
Ratchet Pawl	2677	$ .50	----	----
Ratchet Pawl Washer	2678	.20	----	----
Pipe Bushing, any size, each, (state size)	----	.50	----	.50
Pipe Handles, each	2480	1.00	2480	1.00
Dies, 1", 1¼", 1½", or 2", per single set, (state size)	----	3.00	----	3.00



Old Model Ohio Die Stocks—Plain
Nos. 32 to 37

Old Model Ohio

Repair Parts

The following parts are for the old model Ohio Die Stocks no longer manufactured but dies and parts are furnished as shown. For spare parts of The Improved Ohio tools listed in this catalog see page 36.

Part No.		Name	Ohio—Plain						Ratchet		
Plain	Ratchet		32—32½	33	34	35	36—36½	37	33R	34R	35R
A	A	Die Head	$3.00	$4.00	$5.00	$5.00	$8.00	$10.00	$5.00	$6.00	$6.00
B	F	Chaser Cam	1.25	1.50	2.00	2.00	2.50	3.00	1.50	2.00	2.00
C	G	Guide Cam	1.25	1.50	2.00	2.00	2.50	3.00	1.50	2.00	2.00
D	B	Top Collar	.60	.80	1.25	1.25	1.50	2.00	.80	1.25	1.25
E	C	Bottom Collar	.60	.80	1.25	1.25	1.50	2.00	.80	1.25	1.25
F,G,H	H	Guide Blocks (Per Set)	.80	1.00	1.50	1.50	2.50	3.00	1.00	1.50	1.50
I	M	Lock Screw (Chaser Cam)	.20	.20	.20	.20	.20	.20	.20	.20	.20
J	P	Lock Washer (Chaser Cam)	.10	.10	.10	.10	.10	.10	.10	.10	.10
L	--	Knife Wing Nut	.30	.30	.30	.30	.30	.30	----	----	----
M	--	Knife	1.00	1.00	1.00	1.00	1.20	1.20	----	----	----
N	--	Knife Nut with Knife	1.30	1.30	1.30	1.30	1.50	1.50	----	----	----
O	--	Knife Block	.85	.85	.85	.85	1.00	1.00	----	----	----
P	--	Complete Cut-off	2.15	2.15	2.15	2.15	2.50	2.50	----	----	----
--	N	Lock Screw (Guide Cam)	.20	.20	.20	.20	.20	.20	.20	.20	.20
--	R	Lock S. Washer (Guide Cam)	.10	.10	.10	.10	.10	.10	.10	.10	.10
--	D	Retaining Ring	----	----	----	----	----	----	1.00	1.00	1.00
--	E	Drive Ring	----	----	----	----	----	----	5.00	6.00	6.00
K	W, T	Handle, Complete	.80	1.25	1.50	1.50	2.50	3.00	----	----	----
--	T	Handle, Single End	----	----	----	----	----	----	.50	.50	.50
--	W	Handle, Double End	----	----	----	----	----	----	.75	1.00	1.00
--	J	Ratchet Pawl with Knob	----	----	----	----	----	----	.50	.50	.50
--	K	Ratchet Pawl Spring	----	----	----	----	----	----	.20	.20	.20
--	L	Ratchet Pawl Nut	----	----	----	----	----	----	.20	.20	.20
--	S	Dies, Per Single Set	1.50	1.75	2.00	2.00	3.50	4.00	1.75	2.00	2.00
--	--	Blank Dies for use with Cut-off attachment	.85	.85	.85	.85	1.15	1.15	----	----	----

BEAVER

Service That Never Ends

As you turn this last page, we want to leave just one thought with you: With every Beaver tool that leaves Warren goes the satisfaction bond of The Borden Company.

It is not enough to make the best tool which ample capital, sound engineering skill and painstaking care in manufacture can bring forth. We undertake to see that every Beaver does the work it has been advertised in the foregoing pages to do.

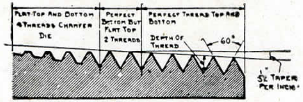
Even if you do not treat a Beaver kindly and so do not get the service from it which it wants to render, it is up to us to discover what the trouble is, if you will give us the chance. Absolute satisfaction to the Beaver user, no less, is what we guarantee.

We are in business to make money, but after twenty-four years of enthusiastic experience in making Beaver Easy-Working Dies and Beaver Square-End Pipe Cutters, money is not the only thing we have made, of which we are proud, and which we do not purpose to lose. We prize and wish to keep our reputation for building a product and a service as nearly perfect as human ambition and effort can make it.

Your cooperation is asked—ours is pledged.

BEAVER

BRIGGS STANDARD PIPE THREAD


FLAT TOP AND BOTTOM 4 THREADS CHAMFER DIE
PERFECT BOTTOM BUT FLAT TOP 2 THREADS
PERFECT THREAD TOP AND BOTTOM
DEPTH OF THREAD
60°
1" 5% TAPER PER INCH

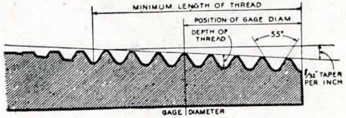
Taper of thread $= \frac{3}{4}''$ per foot $= \frac{1}{16}''$ per in.

$$\text{Depth of thread} = \frac{.833}{\text{threads per inch}}$$

Pipe Diameters			Depth of Thread	No. Threads per Inch	Length of Thread Inches	No. Turns Pipe Screws into Fitting by Hand	No. Turns to be Made With Wrench	Distance Pipe Screws into Fitting	No. of Turns Pipe Screws into Fitting
Nominal Size	Actual Inside	Actual Outside							
1/8	0.270	0.405	.031	27	.412	4	1.13	0.19	5.13
1/4	0.364	0.540	.046	18	.624	4	1.22	0.29	5.22
3/8	0.494	0.675	.046	18	.634	4	1.40	0.30	5.40
1/2	0.623	0.840	.060	14	.818	4	1.46	0.39	5.46
3/4	0.824	1.050	.060	14	.828	4	1.60	0.40	5.60
1	1.048	1.315	.073	11 1/2	1.03	4 1/2	1.37	0.51	5.87
1 1/4	1.380	1.660	.073	11 1/2	1.06	5	1.21	0.54	6.21
1 1/2	1.610	1.900	.073	11 1/2	1.07	5	1.33	0.55	6.33
2	2.067	2.375	.073	11 1/2	1.10	5	1.67	0.58	6.67
2 1/2	2.468	2.875	.104	8	1.64	5	2.12	0.89	7.12
3	3.067	3.500	.104	8	1.70	5	2.60	0.95	7.60
3 1/2	3.548	4.000	.104	8	1.75	5	3.00	1.00	8.00
4	4.026	4.500	.104	8	1.80	5 1/2	2.90	1.05	8.40
4 1/2	4.508	5.000	.104	8	1.85	5 1/2	3.30	1.10	8.80
5	5.045	5.563	.104	8	1.91	5 1/2	3.78	1.16	9.28
6	6.065	6.625	.104	8	2.01	6	4.08	1.26	10.08
7	7.023	7.625	.104	8	2.11	7	3.88	1.36	10.88
8	7.982	8.625	.104	8	2.21	8	3.68	1.46	11.68
9	8.937	9.625	.104	8	2.32	9	3.56	1.57	12.56
10	10.019	10.750	.104	8	2.43	10	3.44	1.68	13.44
11	11.000	11.750	.104	8	2.55	12	3.65	2.05	16.00
12	12.090	12.750	.104	8	2.65	14	3.75	2.15	18.00

BRITISH STANDARD PIPE THREAD

Whitworth Form



Included taper $\frac{3}{4}''$ per foot.
Depth of thread $= .640295 \div$ number of threads per in.

$$.640295\ P \text{ or } \frac{.640295}{n}$$

Nominal Size	Approximate Outside Diameter	*Gage Diameter	Depth of Thread	No. of Threads Per Inch	Length of Thread		Distance of Gage Diameter from End of Pipe—Standard	Drill Size
					On Pipe End	In Coupler		
					Min.	Min.		
1/8	13/32	.383	.0230	28	3/8	3/4	5/32	5/16
1/4	17/32	.518	.0335	19	7/16	7/8	3/16	7/16
3/8	11/16	.656	.0335	19	1/2	1	1/4	9/16
1/2	27/32	.825	.0455	14	5/8	1 1/4	1/4	23/32
5/8	15/16	.902	.0455	14	5/8	1 1/4	1/4	25/32
3/4	1 1/16	1.041	.0455	14	3/4	1 1/2	3/8	29/32
7/8	1 7/32	1.189	.0455	14	3/4	1 1/2	3/8	1 1/16
1	1 11/32	1.309	.0580	11	7/8	1 3/4	3/8	1 5/32
1 1/4	1 11/16	1.650	.0580	11	1	2	1/2	1 1/2
1 1/2	1 29/32	1.882	.0580	11	1	2	1/2	1 23/32
1 3/4	2 5/32	2.116	.0580	11	1 1/8	2 1/4	5/8	1 15/16
2	2 3/8	2.347	.0580	11	1 1/8	2 1/4	5/8	2 3/16
2 1/4	2 5/8	2.587	.0580	11	1 1/4	2 1/2	11/16	2 13/32
2 1/2	3	2.960	.0580	11	1 1/4	2 1/2	11/16	2 25/32
2 3/4	3 1/4	3.210	.0580	11	1 3/8	2 3/4	13/16	3 1/32
3	3 1/2	3.460	.0580	11	1 3/8	2 3/4	13/16	3 9/32
3 1/4	3 3/4	3.700	.0580	11	1 1/2	3	7/8	3 1/2
3 1/2	4	3.950	.0580	11	1 1/2	3	7/8	3 3/4
3 3/4	4 1/4	4.200	.0580	11	1 1/2	3	7/8	4
4	4 1/2	4.450	.0580	11	1 5/8	3 1/4	1	4 1/4
4 1/2	5	4.950	.0580	11	1 5/8	3 1/4	1	4 3/4
5	5 1/2	5.450	.0580	11	1 3/4	3 1/2	1 1/8	5 1/4
5 1/2	6	5.950	.0580	11	1 7/8	3 3/4	1 1/4	5 3/4
6	6 1/2	6.450	.0580	11	2	4	1 3/8	6 1/4
7	7 1/2	7.450	.0640	10	2 1/8	4 1/4	1 3/8	7 5/16
8	8 1/2	8.450	.0640	10	2 1/4	4 1/2	1 1/2	8 5/16
9	9 1/2	9.450	.0640	10	2 1/4	4 1/2	1 1/2	9 5/16
10	10 1/2	10.450	.0640	10	2 3/8	4 3/4	1 5/8	10 5/16
11	11 1/2	11.450	.0800	8	2 1/2	5	1 5/8	11 5/16
12	12 1/2	12.450	.0800	8	2 1/2	5	1 5/8	12 5/16

*Gage Diameter is the full diameter of the Standard Male Parallel Screw Gage which the Parallel Coupler, to be used with a pipe of that size is required to fit.